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This training handbook provides basic instruction in the use of the Defense RDT&E Online System (DROLS), an automated system providing access to major research and development (R&D) data collections. The Technical Report Database (TR) and Current File Technical Report Database (CF) both address completed R&D work efforts, where as the Work Unit Database (WU) addresses work in progress. The IR&D Database, representing planned work efforts by Department of Defense (DoD) contractors wholy funded by the DoD. It is intended to be used in conjunction with the DROLS Workbook AD-A259 033. Information Retrieval, Online Systems, Training, Training Devices, Handbook, User Guide, DROLS.

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FOREWORD

This revision of the Defense RDT&E Online System (DROLS) Handbook replaces the Defense RDT&E Online System (DROLS) Handbook (DLAM 4185.4, Sep 90).

It should be noted that this handbook has been assigned an AD Number and is cited in the Technical Report Bibliographic Database.

Christian M. Cupp

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DTIC QUALITY INSPECTED 5

Accesion For
NTIS CRA&I
DTIC TAB
Unannounced
Justification
By
Distribution /
Availability Codes
Dist | Avail and / or Special
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INTRODUCTION

This training handbook provides basic instruction in the use of the Defense RDT&E Online System (DROLS), an automated system providing access to four major research and development (R&D) data collections. The Technical Report Database (TR) and Current File Technical Report Database (CF) both address completed R&D work efforts, where as the Work Unit Database (WU) addresses work in progress. These databases contain both unclassified and classified up to secret information. The fourth database is the IR&D Database, representing planned work efforts by Department of Defense (DoD) contractors wholy funded by the DoD. This database is proprietary by nature and is protected as if classified secret. Classified and proprietary information is available only to DoD users through specially protected "dedicated terminals."

The chapters are arranged by the various DROLS functions. They are Search, Display, Transfer, Sort, Qualify, List, Recall, and Order. Each chapter will explain the application of various commands and how they are used in the different databases. Due to the intricacies of the DROLS system, it is essential that the appendices referenced throughout the handbook be properly used. You will not receive accurate results if the wrong appendix is used. Questions regarding the use of DROLS can be answered by using the Table of Contents, the Index and the Appendices as a guide. The commands are cross referenced by the abbreviated form and the meaning, so they can be easily located in the handbook. With some practice, you will find that searching the computer is much like going to any other information source. The computer can both speed up your search and help you discover new resources.

LIST OF TABLES

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Chapter 2 - Search *continued*

Chapter 2 - Search *continued*

CHAPTER 1 - OPERATING PROCEDURES

SIGNING-ON (DEDICATED)

Activate terminal and printer.

If you have a secure site, the required cryptographic synchronization procedures must be followed before the terminal can be activated. Such instructions are the responsibility of the crypto custodian at your site per DLAR 5230.3. When these procedures have been completed, the terminal and printer start-up may proceed.

The poll light/indicator will activate, indicating the dedicated telephone line between your terminal and DTIC has been established. At this time, you must sign-on to the Front End Processor (FEP) which functions as a communications link for DROLS. The FEP sign-on command is **$$SON**, followed by a space, your 6-character identification code and transmit. Dedicated sites need to press the transmit key once. Your FEP sign-on entry should look like this:

$$SON AA1234

System Response:

```
SESSION PATH OPEN TO:
```

If your entry is incorrect, the system will respond with:

```
**NETWORK SIGN-ON FAILED: VERIFY TERMINAL ID AND RE-ENTER**
```

After you get the system response SESSION PATH OPEN TO:, enter the DROLS sign-on command **SGNONS**, a slash, your terminal identification, and transmit. Your entry should look like.

```
SGNONS/DTIC
```

The system will respond with:

```
*MSG ON 1 SIGN-ON ACCEPTED
```

If the system responds with a message other than the one shown, consult Appendix 2, Terminal User Condition Messages. Various situations are described, followed by corrective actions when necessary.

System Response:

```
SESSION PATH OPEN TO: APTSVN
--   THE DEFENSE RDT&E ON-LINE SYSTEM
--   IS NOW ACTIVE FOR
--   APR 5, 1992
--   ** ATTENTION ** PLEASE DISPLAY INFORMATION LOG** ATTENTION **
--PLEASE ENTER YOUR TERMINAL IDENTIFICATION
```

At this point, enter your terminal identification and transmit.

Example: **DTIC**

The system will respond with an audible signal and the following message on the last line of your screen:

```
*MSG RECEIVED*
```

This indicates that your message has been sent, received, and is in a wait state in the computer at DTIC. In a few seconds, the system will respond by welcoming you online with the date, time, and two warning statements: the Export Control, International Traffic in Arms Regulation (ITAR) statement, and the No Sale statement as follows:

```
--WELCOME ONLINE - DATE MMDDYY TIME HHMMSS
--IF YOU DISPLAY ENTRIES OF REPORTS WITH REFERENCES MARKED
--EXPORT CONTROL THE FOLLOWING WARNING APPLIES:
************************WARNING*********************************
--THIS DOCUMENT CONTAINS TECHNICAL DATA WHOSE EXPORT IS
--RESTRICTED BY THE ARMS EXPORT CONTROL ACT (TITLE 22,
--U. S. C., SEC. 2751 ET SEQ.) OR EXECUTIVE ORDER 12470.
--VIOLATIONS OF THESE EXPORT LAWS ARE SUBJECT TO SEVERE
--CRIMINAL PENALTIES. DISTRIBUTION OF THIS DOCUMENT IS
--SUBJECT TO DODD 5230.25 PROCEDURES
************************WARNING*********************************
--AS A CONDITION OF OBTAINING DTIC SERVICES, ALL INFORMATION
--RECEIVED FROM DTIC THAT IS NOT CLEARLY MARKED FOR PUBLIC
--RELEASE WILL BE USED ONLY TO BID OR PERFORM WORK UNDER A
--U.S. GOVERNMENT CONTRACT OR GRANT OR FOR PURPOSES
--SPECIFICALLY AUTHORIZED BY THE U.S. GOVERNMENT AGENCY
--THAT IS SPONSORING ACCESS. FURTHER, THE INFORMATION WILL
--NOT BE PUBLISHED FOR PROFIT OR IN ANY MANNER OFFERED FOR
--SALE. NON-COMPLIANCE MAY RESULT IN TERMINATION OF ACCESS
--AND A REQUIREMENT TO RETURN ALL INFORMATION OBTAINED
--FROM DTIC.
************************WARNING*********************************
```

The terminal is now ready for use. Be sure you have activated your printer.

NOTE: If you have trouble signing-on to DROLS, call the voice recording, (703) 274-7882 or DSN 284-7882, for the DROLS status. If the system is up, and you still can't sign-on, call the DTIC Network Services Branch at (703) 274-7791 or DSN 284-7791 for assistance. If you think you have an equipment problem, call the Technical Control Office at (703) 274-7251 or DSN 284-7251.

SIGNING-OFF (DEDICATED)

To shut down the terminal, you must first terminate your connection with DROLS. Follow the procedures cited below that are applicable to your computer site.

Examples:	*Classified Terminal*	*Unclassified Terminal*
	@dsl@	@term@
	w	
	@term@	

System Response:

```
--THIS TERMINAL HAS BEEN TERMINATED
CONNECT TIME= ON HHMMSS OFF HHMMSS
MSG D07 - PLEASE SIGN OFF TERMINAL ***
```

Now you must break communication with the Front End Processor (FEP). Enter the sign-off command and transmit. The sign-off command is:

$$SOFF

System Response:

```
*INACTIVE TERMINAL*
```

All equipment may now be turned off.

SIGNING-ON (DIAL-UP)

Dial-Up is available in unclassified and classified modes. Classified Dial-Up access requires the use of a Secure Telephone Unit III (STU-III). For more information on the use of a STU-III contact DTIC's Information Systems Support Directorate, Telecommunications Division, DTIC-ZT (703) 274-7967, DSN 284-7967

MODEM AND COMMUNICATION PROTOCOLS

Protocols

Data Bits 7
Stop Bit 1
Parity ..... Even
Duplex ..... Half
Automatic Carriage Return ..... Off
Automatic Line Feed ..... Off

Activate terminal and printer. Initiate connection to DTIC by direct dial or through your local Tymnet node. Tymnet users must first enter their one-letter terminal identifier and **one** carriage return. Next enter Tymnet logon **82STINFO** and **one** carriage return, then the Tymnet password **DROLSTYM** and **one** carriage return. This will give you the port number your terminal is assigned. *(Note: Remember your port assignment. This information is valuable for trouble shooting communication problems.)* Direct dial users need only enter the number **5** after their dial-up connection has been made (no carriage return is necessary).

Sign-on to the Front End Processor (FEP) by entering **$$SON**, followed by a space, your 6 character identification code and transmit with **one** carriage return. Your FEP sign-on entry should look like this:

$$SON AA1234

System Response:

```
SESSION PATH OPEN TO:
```

Enter the Sign-on command **SGNONA**, a slash (/), your password, a slash (/), and the first five digits of your NTIS deposit account, and **one** carriage return. Your entry should look similar to the following:

```
SGNONA/BB2345/12345
```

System Response:

```
MSG ON 1 SIGN-ON ACCEPTED
- -RDT & E ONLINE SYSTEM MMM DD,YYYY- -
PLEASE ENTER YOUR TERMINAL IDENTIFICATION
```

At this time, enter your terminal identification (from your password card) and **two** carriage returns. Your entry should look similar to the following.

```
TNG1
```

System Response:

```
WELCOME ONLINE - DATE MMDDYY TIME HHMMSS
--IF YOU DISPLAY ENTRIES OF REPORTS WITH REFERENCES MARKED
--EXPORT CONTROL THE FOLLOWING WARNING APPLIES:
**************************WARNING*******************************
--THIS DOCUMENT CONTAINS TECHNICAL DATA WHOSE EXPORT IS
--RESTRICTED BY THE ARMS EXPORT CONTROL ACT (TITLE 22,
--U. S. C., SEC. 2751 ET SEQ.) OR EXECUTIVE ORDER 12470.
--VIOLATIONS OF THESE EXPORT LAWS ARE SUBJECT TO SEVERE
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--NOT BE PUBLISHED FOR PROFIT OR IN ANY MANNER OFFERED FOR
--SALE. NON-COMPLIANCE MAY RESULT IN TERMINATION OF ACCESS
--AND A REQUIREMENT TO RETURN ALL INFORMATION OBTAINED
--FROM DTIC.
**************************WARNING*******************************
```

The system is now operational.

NOTE: Though your asynchronous dial-up will allow you to move about freely on the screen, DROLS will only recognize that input which is made on the bottom line. However, synchronous dial-up terminals allow input anywhere on the screen.

SIGNING-OFF (DIAL-UP)

To shut down the terminal, you must first terminate your connection with DROLS. Follow the procedures cited below.

Examples: @term@

System Response:

```
--THIS TERMINAL HAS BEEN TERMINATED
CONNECT TIME= ON HHMMSS OFF HHMMSS
MSG D07 - PLEASE SIGN OFF TERMINAL ***
```

Now you must break communication with the Front End Processor (FEP). Enter the sign-off command and **one** carriage return. The sign-off command is:

$$SOFF

System Response:

```
*INACTIVE TERMINAL*
```

All equipment may now be shut down.

NOTE: Your connection will be terminated after 15 minutes of inactivity. When an interruption of service is anticipated, a message similar to the following will appear:

```
*************************************************************
*    DROLS SYSTEM BROADCAST MESSAGE    *
*************************************************************
ADMINISTRATIVE AND/OR TECHNICAL CONDITIONS AT THE CENTRAL
DTIC COMPUTER SITE REQUIRE THAT LOCAL AND REMOTE TERMINAL
OPERATION OF DROLS BE TEMPORARILY SUSPENDED AS INDICATED
BELOW:
*************************************************
*  DROLS SYSTEM OPERATION WILL BE  *
*  INTERRUPTED IN ** TEN MINUTES ***
*************************************************
```

Additional information on the DROLS system can be obtained by displaying the information log. The command for this is **@DIL@**. See Chapter 3 for further instruction on display commands.

CHAPTER 2 - SEARCH

The search function is the primary method for retrieving information from the DROLS databases. By matching user provided query terms against the Inverted File, an index of searchable terms and term phrases, the system retrieves a set of search results. Boolean logic is used to define conceptual relationships and refine the search results.

To perform a search, enter one of the search commands and construct a search strategy in the format specified. Please note the following:

- If you are using a dedicated terminal, clear the screen or press the Start of Entry (SOE) key before performing a search. If you are using a dial-up terminal, move to the next blank line before beginning a search.
- All search commands are preceded and followed by the @ sign, i.e., **@STR@**. This command means Search Technical Reports.
- Search options **%**, **$**, **?**, and * can be used alone or in combination.
- Each term or term phrase used in the search strategy must occupy its own screen line. When the Boolean connectors **AND** or **NOT** are used in the search question, they must also occupy one screen line each. The Boolean connector **OR** is not used. Instead, all terms or term phrases listed on successive screen lines of the same search level are assumed by DROLS to be in a Boolean **OR** condition *(NOTE: The start of a new search level within a search question is indicated by a Boolean **AND** or **NOT**).*
- There is a 60-character maximum per search term or term phrase.
- Neither role codes nor mnemonics are required for subject searching. However, extraneous search results may occur.
- Search questions are limited to 9 levels; however, the number of terms per level is limited to 525-term limit on Dedicated terminals, and the 300-term limit on Dial-Up terminals.
- If you are using a dedicated system and your search strategy requires more than one full screen, use the following steps. After the last term is entered at the bottom of the first (or any succeeding) screen, press your transmit key. The system will respond with a blank screen and a message prompting you to enter additional terms or END. Continue entering terms until the search strategy is complete, type END and TRANSMIT.
- Boolean connectors are **AND**, **NOT** and **OR** (assumed). When **NOT** is used, it must be the last level.

- Search output is limited to 25,000 finds or accessions.
- Total search time is limited to 3 minutes.
- Planning a search.

  Before a search can be performed, a search strategy must be developed. Developing the strategy is the process of analyzing the question and selecting the terms or term phrases that will best answer it. These terms or term phrases may be subject terms or they may be an author's name, a title, a report number, etc. The information that is requested will determine the order in which the selected terms or term phrases are combined.

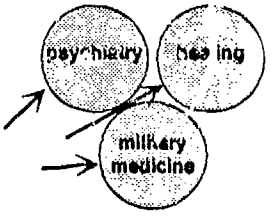
- How to use Boolean Logic

  DROLS uses Boolean logic to show the relationships among terms. The Boolean operations are: **OR**, **AND**, and **NOT**. Instructions for using the operations follow:

  Or

  –Groups together similar or related terms.
  –OR does not have to be typed between terms, it is understood.
  –In the following example, DROLS will find technical reports with any of the terms listed.

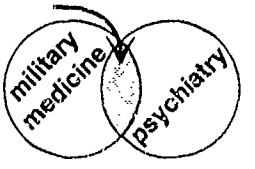
Example: @str@
psychiatry
healing
military medicine
end



And

–Shows relationship among terms.
–Enter AND on a separate line.
–In the following example, DROLS will find only those technical reports dealing with both military medicine and psychiatry.

Example: @str@
military medicine
and
psychiatry
end



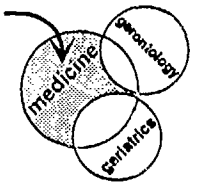
Not

–Eliminates terms or term phrases from consideration.
–Enter NOT on a separate line. NOT must be the last level in the search strategy.

–Use only one NOT.

–In the following example, DROLS is searching the term medicine. However, the user is not interested in gerontology and geriatrics and therefore has eliminated this from these terms results by using NOT.

Example: @str@
medicine
not
gerontology
geriatrics
end



When planning a search, try to enter terms on the first level that are likely to give the fewest results in order to save computer processing time. The computer searches the first level terms, then matches the second level terms with the finds on level one, then matches the finds of the first and second levels with terms on the third level, and so on.

- If a search cannot be completed, one of the following messages will be displayed immediately preceding the TOTAL-SEARCH FINDS line.

```
1. --INCOMPLETE - 3-MIN SEARCH TIME EXCEEDED
2. --INCOMPLETE - TOO MANY FINDS ON LEVEL ONE
3. --INCOMPLETE - TOO MANY TERMS IN STATISTICS FILE
4. --SEARCH XXXXXX DELETED NO FINDS END OF LEVEL X
```

- Complete each search strategy with the terminator word END and transmit. *(Reminder: Dial-Up sites require two carriage returns to transmit and Dedicated sites need to press the transmit key once.)*
- Search New Accessions @SNA@ limits your search results to the items entered into the TR database since the last update cycle.
- A search can be specified by accession number ranges. (See Appendix 7 for the assignment of AD numbers by calendar year.) As many as 10 ranges can be used for any one search. They do not have to be arranged in sequential order. An AD number range may follow the last term or precede the first term of your search strategy and does not require a logical operator. Give both the low and high number for the range in parentheses, separating the range with a hyphen.

Examples:

```
@str@                          @str@
$humans                  or    (ada000001-ada017003)
and                            (adb000001-adb051635)
$gastrointestinal diseases     $humans
(ada000001-ada017003)          and
(adb000001-adb051635)          $gastrointestinal diseases
end                            end
```

- You may also limit a TR search by accession date (which is the date that the reports were added to the database). This is not synonymous with the Report Date. You may limit your search to (2), (5), or (10) years, or use (all) to search the entire database. There is an automatic search default to the last 10 years of ADs. The year designator may follow the last term or immediately precede the first term of your search. It does not require a logical operator, but must be enclosed in parentheses.

Examples:

```
@str@                          @str@
$humans                        (5)
and                            $humans
$gastrointestinal diseases     and
(5)                            $gastrointestinal diseases
end                            end
```

SEARCH RESULTS

The following statistics are displayed after each search on a dedicated terminal. To get the same information on a dial-up terminal, use the **@RSS@** command (see Chapter 8).

```
--  <<P, C, W OR X FOR ADDITIONAL STATISTICS>>
--  TECHNICAL REPORTS STATISTICS  PAGE 1 OF 2 APR 22, 1993
--TOTAL-SEARCH FINDS**-------------   4     ARMY--    0
--  FIRST LEVEL FINDS**-------------  44     NAVY--    0
--  FIRST AND SECOND LEVEL FINDS**--   6     AF----    0
--  1+2+3 LEVEL FINDS**-------------   4     OTHER-    0
--  1+2+3+4 LEVEL FINDS**-----------   0

--SEARCH          5FQ27E                    FINDS-    4
--TIME OF DAY    16:27:41              COMPUTE TIME    .9

--FINDS** REPRESENT NUMBER OF ACCESSIONS RETRIEVED
--EXCLUDING DUPLICATES
```

TOTAL-SEARCH FINDS - Actual number of accessions retrieved excluding duplicates.

FIRST-LEVEL FINDS - Total number of accessions retrieved that satisfy any search term within the first level.

FIRST AND SECOND LEVEL FINDS - Total number of finds that result when the search requirement of the first and second levels are met.

1 + 2 + 3 LEVEL FINDS - Total number of finds that result when the search requirement of the first, second and third levels are met.

1 + 2 + 3 + 4 LEVEL FINDS - Total number of finds that result when the search requirement of the first, second, third and fourth levels are met.

ARMY - NAVY - AIR FORCE - OTHER - When searching the Work Unit (WU) file, this column shows finds broken down by the major military services and miscellaneous governmental and contractual organizations. Zeros appear for TR and IR&D files.

SEARCH - A unique computer-assigned, 6-character, alphanumeric control number used to identify the search.

TIME OF DAY - The time, by hour, minute, and second, that the computer started processing the search question.

FINDS - Same as Total Search Finds.

COMPUTER TIME - Internal computer processing time required to accomplish the search.

The command **@DSR@** is used to display search results. See Chapter 3 for more information on display commands.

SEARCH OPTIONS

The following search options should be considered when structuring search questions. These options may be used individually or in combination. Remember, all search commands for the TR database should start with the command, Search Technical Reports, **@STR@**.

HIERARCHY OPTION ($)

Descriptors

The *DTIC Thesaurus* and its hierarchical index identify the hierarchical relationship among DTIC descriptors. The *DTIC Thesaurus* identifies, for each descriptor, the related descriptors which are generically one level broader than, or narrower than a specific term. The hierarchical index displays the complete multi-level structure of each term hierarchy. When a descriptor is entered preceded by the $

sign, all of the *DTIC Thesaurus* descriptors which are hierarchically narrower than the term entered, in addition to the term itself, are added to the search strategy.

Example: @str@
$tropical diseases
end

Use of the descriptor TROPICAL DISEASES hierarchically will produce the same results as a cumulated search of the following terms:

CHOLERA
DENGUE
FILARIASIS
TROPICAL SPRUE
TYPHUS

NOTE: A search strategy must not exceed 525 terms (Dedicated) or 300 terms (Dial-Up). Use of the hierarchy option on one or more entries may, because of the introduction of the hierarchically-related terms, result in a search strategy exceeding 525 terms. In that case, the system would respond with the message:

Source Codes

The hierarchy option is used to search for an organization together with its subdivisions and former corporate names. The *Source Hierarchy List* contains the source codes associated with the current source name, its organizational subdivisions, and its former names.

Example: @str@
laser weapons
and
?02$406553
end

TRUNCATION OPTION (%)

Subject searching on specific terms may not always yield the best results. An alternative is to shorten or truncate the spelling of the term or term phrase that may have several different endings. Truncated terms or term phrases are searched in all narrative fields. This allows a greater number of term matches and their related accessions to be considered as possible answers to a search question.

NOTE: Avoid truncating a short term. For example: FUR (you will pick up too many irrelevant terms or term phrases; i.e., FURALDEHYDES, FURN RESINS, FURANS, FURNACES, FURNITURE, ...etc.).

If 2 to 4 characters are used in your truncation option, the system will inform you that the search may be too broad. You will have to respond with **Y** (yes) to continue or **N** (no) to abort. This very broad form of truncation should be performed with caution, since costly and time consuming searches will result.

To eliminate unwanted terms, you could use **NOT** logic. The Boolean connector **NOT** must always be the last statement of the search. Be careful when using **NOT** logic because it will override finds in earlier search levels. This means that even though an item meets all of the specifications of earlier search levels, if it also meets the criteria of the **NOT** level, it will be rejected. The following is an example of a search using the **NOT** logic.

Example:
```
@str@
%aircraft
not
%aircraft carrier
end
```

WEIGHTED TERM (*)

Occasionally, you may want to restrict your search results to those items where the term or terms you are interested in are the primary subject of the report. To search for such terms, use the weighted term option immediately before the term. The weighted term option is only available in the TR database.

Example:
```
@str@
*gastrointestinal diseases
and
$humans
end
```

Accession Date Matrix

The following matrix shows accession date defaults and options used in each database.

File Names	Automatic Default	Optional
TR	10 years	2, 5, All, Spans
NA	All	Spans
CF	All	Spans
WUIS	All	Spans
IR&D	2 years	All, Spans

TABLE 1

NOTE: Accession date is the date the report was added to the database.

Search Option Matrix

The following matrix shows which search option may be used in which database and on what types of data they are effective.

SEARCH OPTION	FILE NAMES				TIPS
	TR	CF	WU	IR	
$ Hierarchy	Thesaurus Source Code	Source Code	Thesaurus Source Code	Thesaurus	300 Terms 525 Terms
% Truncation	ALL	ALL	ALL	ALL	Except ?56
* Weighted	Thesaurus Identifiers Open Ended Terms	N/A	N/A	N/A	Reduces finds about 30%
?NN Role Code	ALL	ALL	N/A	N/A	Pack together after ?NN

TABLE 2

Combined Search Options Matrix

There are occasions when you may want to use the search option in combination to obtain highly specific results. The following matrix shows which options are available to you.

SEARCH OPTION	FILE NAME			
	TR	CF	WU	IR
* $	Thesaurus	N/A	N/A	N/A
* %	Thesaurus Identifiers Open Ended Term	N/A	N/A	N/A
(TR) $? N N (WU) $Mnemonic	Source Code	N/A	Source Code	Thesaurus
$ %	Thesaurus	N/A	Thesaurus	Thesaurus

TABLE 3

NOTE: The combined search option $% should not be used because the search results default to the hierarchy of thesaurus terms. Therefore the truncation function is not performed.

TECHNICAL REPORT (TR) DATABASE

The TR database contains approximately 1.5 million bibliographic citations spanning a wide varity of scientific and technical subjects dating roughly from 1917 to the present.

TR DATABASE ROLE CODES (?NN)

Each searchable field may be identified by a field or role code (see Appendix 3) which when used eliminates unwanted data from entering the search process. To implement this option, precede the term with the ? symbol and the appropriate 2-digit role code.

Example:
```
@str@
?11wayman rj
end
```

?00 - Index Terms Search

In general, searching with index terms (Descriptors *[DTIC controlled vocabulary]*, Identifiers *[author assigned terms]*, and Open-Ended Terms *[general terms]*) does not require the use of a role code. Also, when you use a hierarchy option $ with descriptors, you do not need to use the role code. However, when you use the truncation option **%**, you should use **?00** if you want your search to include only indexed terms, otherwise extraneous search items such as authors, titles, etc. could be included in your results.

Examples:

Entered Term	*Retrieved Terms*
%UNDER	UNDERWATER ACOUSTIC DECOUPLER
	UNDERWATER ACOUSTIC PANELS
	UNDERWATER ACOUSTIC PRESSURE
	UNDERWATER ACOUSTICS
	UNDERWATER ACOUSTIC / REVERBERATION
	UNDERWATER AMBIENT
	UNDERWOOD, AH
	ETC.

Entered Terms	*Retrieved Terms*
?00%UNDER	UNDERWATER AMBIENT
	UNDERWAY SAMPLING
	UNDERWEAR
	UNDERWRITER OPERATIONS
	UNDER-REAMED PILES
	UNDER-THE-WING FLAPS
	ETC.

?57 - Entry Classification Statement
?58 - Report Classification Search

In the Technical Report database, you may limit your search to certain report classifications by using **?57** to search the entry classification field or **?58** to search the actual report classification field. Unclassified terminals will receive **sanitized** citations to classified documents. The following abbreviations are used for the different classifications:

S - Secret
C - Confidential
R - Restricted

Example: To retrieve only those citations or documents on STRESS during DIVING that are classified confidential, your search pattern for the referenced classification statement should look like this:

Entry Classification Statement	*Report Classification Statement*
@str@	@str@
stress(physiology)	stress(physiology)
and	and
%diving	%diving
%diver	%diver
and	and
?57c	?58c
end	end

SECURE SITES. If a displayed field is classified, the entry classification will appear as the first element of the display.

Example:

The display of any field with a security classification will be noted as a classified display. Safeguarding classified printouts is your responsibility. If you want only unclassified citations, use **NOT** logic to exclude the classified citations.

Example:
```
@str@
stress(physiology)
and
%diving
%diver
not
?58s
?58c
?58r
end
```

In the example above, the first and second level finds represent all of the reports on the subject. The third level finds represent the unclassified documents.

TITLE SEARCHING

Title searching can be accomplished three ways: through free text searching, through the use of the first five words of the title, or through the use of a search key algorithm constructed from the first five words of the title. For every record stored in the TR database, the computer has created a title key, a short abbreviation of the title. The role codes used in title searching are as follows:

?60 - Free Text - Title

In the TR database, free text searching is limited to single words that appear in the titles of any document processed since the beginning of 1975. The following information applies to searches using **?60**:

- Single words (uniterms) are entered.
- Search option is limited to truncation (%) only.
- All forms of the word must be entered, such as foreign spelling, Arabic numbers, Roman numerals, numbers spelled out, etc.
- All punctuation or special characters are treated as spaces.
- Consult the STOP WORD LIST for a listing of the words that cannot be used in full text searching.

Example:	*Narrative Phrase*	*Search Strategy*
	Analysis of the YC-15	@str@
	Acoustic Loads	?60analysis
	Under-the-wing Flaps	and
		?60yc
		and
		?6015
		end

Stop Word List

A	DISCUSSED	OR	THE
AFTER	DUE	OTHER	THEIR
ALSO	DURING	OUT	THERE
AN	EACH	PERFORMANCE	THESE
AND	FOR	PERFORMED	THEY
ANY	FOUND	POSSIBLE	THIS
ARE	FROM	PRESENT	THOSE
AS	FURTHER	PRESENTED	THROUGH
AT	GENERAL	PRESENTS	TO
AUTHOR	GIVEN	PROVIDE	TYPES
AVAILABLE	HAS	PROVIDED	U
BE	HAVE	PROVIDES	UNDER
BEEN	HOWEVER	RELATED	UP
BEING	IF	REPORT	USE
BETWEEN	IN	REQUIRED	USED
BOTH	INCLUDED	RESULTS	USING
BUT	INTO	S	VARIOUS
BY	INVESTIGATED	SEE	VERY
C	IS	SELECTED	WAS
CAN	IT	SEVERAL	WELL
CFRD	ITS	SFRD	WERE
CONDUCTED	MADE	SHOULD	WHEN
CONSIDERED	MAY	SHOWN	WHERE
COULD	MORE	SIGNIFICANT	WHICH
CRD	MOST	SOME	WHILE
DESCRIBED	NO	SPD	WILL
DESCRIBES	NOT	STUDIES	WITH
DESIGNED	OBTAINED	SUCH	WITHIN
DETERMINE	OF	TESTED	WITHOUT
DETERMINED	ON	THAN	WOULD
DIFFERENT	ONLY	THAT	

TABLE 4

?56 - First Five Words - Title

Enter up to the first five words of the title and the computer system constructs the title key/algorithm before starting the search. The statistical page will display the algorithm that the computer constructed. The following information applies to searches using **?56**.

- Include initial articles (a, an, the, etc.).
- There is a 60-character limit on the title field.
- Truncation Option (**%**) is not available.
- Only alphanumeric characters are used.
- All punctuation/special characters are treated as spaces.

- Spaces are used between words in the title.
- STOP WORD LIST does not apply.

Example: @str@
?56analysis of the f 15
end

?55 - Search Key Algorithm

For each title, a key is extracted from the first five words. The key consists of the first character of the first word, the first four characters of the second word, the first three characters of the third word, and the first two characters of the fourth and fifth words (i.e.,1,4,3,2,2). The following information applies to searches made with **?55**.

- There are no more than 12-characters to key.
- Use an asterisk if a word is too short or if fewer than five words are in the title.
- The truncation option (**%**) is available.
- Only alphanumeric characters are used.
- All punctuation/special characters are counted as spaces.
- All characters are packed together, no spaces.
- STOP WORD LIST is not used.

Example: @str@
?55aof**thef*15
end

REMEMBER: You can use the Truncation Option **%** with **?60** and **?55** and the title key; you cannot truncate using **?56** and the title.

Example: If you searched for all titles beginning with "Analysis of the F...", your strategy would look like this:

Example: @str@
?55%aof**thef*
end

```
--                              1   OF   2
--   1 - AD NUMBER:  P005125
--   2 - UNCLASSIFIED TITLE: ANALYSIS OF THE F-16 FLOW FIELD
--         BY A BLOCK GRID EULER APPROACH.
--*******
```

NAME SEARCHING

?11 - Author Search

To search an author's name (i.e., JOHN R. BROWN), input the last name first, a space, then the author's initials. Hyphens are dropped; no periods or spaces are used with the initials.

Example:
```
@str@
?11brown jr
end
```

You could use truncation and search with a single initial mask if you know the author as JOHN BROWN, or just BROWN.

Example:
```
@str@
?11%brown j
end
```
or
```
@str@
?11%brown
end
```

NOTE: Searching on a truncated last name only will not only give you the last name BROWN, but all last names beginning with BROWN, such as BROWNELL. Adding the truncation symbol after the name will create a mandatory blank space after the root of the stem. Do not include titles, military rank, etc. as part of your search statement.

Example:
```
@str@
?11%brown%
end
```

Another option would be to use the multiple search statement for variable spellings.

Example:
```
@str@
?11browne ja
?11brown ja
end
```

DATE SEARCHING

?24 - Report Date

Technical reports may be searched for a specific report date, year, or month and year. This search would usually be performed in combination with other search statements further characterizing the material desired. The basic search for a specific date requires the role code **?24**, the year, month and day (YYMMDD). Truncation can be used to search less specific dates since some report dates may not include a specific month and/or, day or you may wish to retrieve reports written on any day of a specific month/year, etc.

To search for reports dated 5 OCT 90, your search strategy would look like this:

Example:
```
@str@
?24901005
end
```

To search for reports in a given year and month such as OCT 90, the search strategy should appear as:

Example:
```
@str@
?24%9010
end
```

To search for all reports in a given year, use the following:

Example:
```
@str@
?24%90
end
```

The combination search is the most commonly used. Suppose you were interested in reports written in 1990 with STRATEGIC MATERIALS as a primary subject. Remember, the primary subjects are weighted by DTIC subject analysts so use the weighted term option with the term STRATEGIC MATERIALS. The strategy would look like this:

Example:
```
@str@
*strategic materials
and
?24%90
end
```

When building search strategies, think about the order of the statements. Why not put the date statement first? As far as your logical results are concerned it doesn't matter, but think about what the computer is doing. First, it finds items that satisfy the first search level, then it looks through those to find items that satisfy the second level search and so on. If you put the truncated date statement first, the first level search will find reports dated 1990, then it will select from those, the ones with STRATEGIC MATERIALS as a primary subject. Such an approach takes more than 100 times as much computer time as starting with the weighted subject term. *GENERALLY, WHENEVER YOU PLAN A SEARCH, TRY TO USE AS THE FIRST STATEMENT THE ONE THAT WILL GIVE THE FEWEST RESULTS.* Truncated dates should be avoided as a first statement.

NOTE: A warning message may appear to remind you that masking 2 to 4 characters may result in too many finds. Press Y to continue or N to abort.

NUMBER SEARCHING

Searching for specific report numbers is somewhat more complicated than other number searches. The number you are looking for may have been entered as either a source series (report) number, or fragmented into a monitor series number and a monitor acronym. Thus, you may need to search both possibilities. Always truncate report number searches to allow for part and volume numbers, appendices, supplements, etc. Also remove all hyphens, spaces, etc. The three role codes used to perform these searches follow.

?54 - Subject Fields of Interest - (Fields & Groups)

There are many scientific and technical information fields of interest available in DTIC's databases. Limiting search results to only these fields of interest can be accomplished by using the numeric code assigned to each field. (See Appendix 12) To search a subject field, use role code **?54** and the corresponding number for that field. You must enter 6 numerics, adding zeroes after the assigned code, if it is less than 6 numbers (all numbers are packed). Suppose you want to know what documents were available under the subject area of Aerodynamics, for which the code is 01-01. Your search should appear as follows:

Example:
```
@str@
?54010100
end
```

NOTE: This Role Code option is effective for TRs added to the database since January 1990.

?51 - Source Series

Suppose the Naval Post Graduate School, Monterey, CA. (NPS) published a document with the report number NPS-61-089-012. To search by the source series, your strategy should look like this:

Example:
```
@str@
?51%nps61089012
end
```

NOTE: The truncation is used for all report numbers in the requested series.

?03 - Monitor Acronym

The TR database may be searched for a monitoring agency by searching the monitor acronym such as Wright Research and Development Center (WRDC). The *Directory of Organizational Technical Report Acronym Codes (DOTRAC)* would be useful to help you identify these acronyms. A simple acronym search of the entire TR database would not be advisable since it would probably yield too many items. However, combination searches of acronyms with accession number cut-off options or with specific subject terms may be more successful. To search for the reports of work monitored by WRDC that were accessioned by DTIC within the last five years, use the following strategy:

Example:
```
@str@
?03wrdc
(5)
end
```

?53 - Monitor Series Number

To search for a monitor report number, combine two search statements: a search of the monitor acronym role code **?03**; and a search of the monitor series number role code **?53** with the Boolean connector **AND**. To search the number WRDC-TR-89-8046-VOL-2-PT-2, your search strategy should look like:

Example:
```
@str@
?03wrdc
and
?53%tr898046
end
```

To determine whether there is a document in a database with a particular report number, try two different searches. Search for the source series (report) number in the first search; and use a coordinated search for the monitor acronym and monitor series in the second. However, it is more expedient to conduct a report number combination search for either the source report number or monitor report number, because you may not know whether the report number is the performing organization or monitor organization. The following is an example of this:

Example:
```
@str@
?51%wrdctr898046
?03wrdc
and
?51%wrdctr898046
?53%tr898046
end
```

This search used the document number as the complete source series number on two levels with the monitor acronym statement on one level and the monitor series number on the other level. Redundancy searching for the same term on more than one level can be a very useful technique when you have a search pattern involving a single term and a combination of terms.

NOTE: More than one report number may be included in data fields 18 and 19.

?51 - Patent Number

Patent numbers and/or patent applications may be searched as a source series number.

Examples: *Pat.-Appl.-696 819*
```
@str@
?51%patappl696819
end
```

Patent-5 097 477
```
@str@
?51%patent5097477
end
```

?16 - Contract Number

This is one of the most common searches in the TR database. Type in the complete contract number eliminating all punctuation and spaces.

Example: To search contract F19628-85-C-0002 your strategy should look like this:

Example:
```
@str@
?16f1962885C0002
end
```

?21 - Project Number

Project numbers are used to provide RDT&E funding information. The numbers can also be used to identify a particular endeavor. Project numbers are retrievable and provide reference to information in the WUIS and IR&D databases, as well as, related documents in the TR database.

Example: @str@
?21il263102d071
end

?20 - Task Number

Tasks are smaller segments of a project into which exploratory development efforts may be divided for purposes of local administration. Tasks encompass exploratory development efforts directed toward a specific objective.

Example: @str@
?20mf51524002
end

NOTE: In each case, eliminate all punctuation and spaces.

?52 - Serial Number

Serial number searching is somewhat limited and is usually done in connection with other searching. The following are the one-character abbreviations used when searching with role code **?52**:

F = Final	1 = 1st Volume, Issue or Part
S = Summary	2 = 2nd Volume, Issue or Part
A = Annual	3 = 3rd Volume, Issue or Part etc.

The following are examples of contract searching in combination with serial number searching.

For the final report on a Contract	*For the annual reports on a Contract*	*For the summary report on a Contract*
@str@	@str@	@str@
?16afosr880009	?16afosr880009	?16afosr880040
and	and	and
?52f	?52a	?52s
end	end	end

?02 - Source Code (Corporate Author)

When searching for a particular corporate author, your first step is to find the organization source code in the *DTIC Source Header List*, or *DTIC Source Hierarchy List*. Suppose you are interested in reports prepared by the Ohio State University Research Foundation, Columbus (OSURFC). Locate the source code in the *Source Header List*. The code number for OSURFC is 267360. Your strategy should look like this:

Example: @str@
?02267360
end

Suppose you want to search for everything from OSURFC and its laboratories. To avoid searching on each individual source code, you can use the hierarchy option with the source code of the highest organizational entity. Organization source codes are ranked in hierarchical order in the *Source Hierarchy List*. In this case, the Cryogenic Laboratory and others are listed below OSURFC. To retrieve citations sponsored by OSURFC to include all of its laboratories, search using the OSURFC code and the hierarchy option:

Example:
```
@str@
?02$267360
(all)
end
```

NOTE: An entry in either the Source Header List or the Source Hierarchy List for a corporate author means that DTIC has, at some time, received material which was accessioned into any one of the DTIC databases (TR, WU, IR&D).

?30 - Geopolitical Code

If the corporate author is located in the U.S., it is assigned a geopolitical code which identifies the state and congressional district it is located in. Otherwise the geopolitical code identifies the country. The following is an example of a location search to find reports issued from Ohio's 10th Congressional District. (See Appendix 8, Geopolitical Codes). The code for Ohio is 39, so the strategy should look like this:

Example:
```
@str@
?303910
end
```

SITE HOLDING SYMBOL SEARCHING

?59 - Site Holding Symbol

An individual contributor can display their site symbol. This can be searched either in its entirety, or by the first three characters only. For example, the site holding symbol for the Institute for the Defense Analyses (IDA) is IDAH 041714. The search strategy should be:

Examples:
```
@str@                    or    @str@
?59idah041714                  ?59ida
end                            end
```

Example:

```
--    1   OF     1
-- 1 - AD NUMBER: B166196L
--48 - SBI SITE HOLDING SYMBOL:      IDAH041714
-- 2 - FIELDS AND GROUPS: 25/2, 5/2
-- 3 - ENTRY CLASSIFICATION:    UNCLASSIFIED
-- 5 - CORPORATE AUTHOR: INSTITUTE FOR DEFENSE ANALYSES ALEXANDRIA VA
-- 6 - UNCLASSIFIED TITLE:      VALIDATING TELECOMMUNICATION DATABASES:
--     CURRENT PRACTICES, RECOMMENDATIONS AND SAMPLING PLAN,
-- 8 - TITLE CLASSIFICATION:    UNCLASSIFIED
--10 - PERSONAL AUTHORS: CASTEEL, JOHN;  DERIGGI, DENNIS F.
--11 - REPORT DATE:      JUN    , 1992
--12 - PAGINATION:      51P    MEDIA COST:  $  6.00
--14 - REPORT NUMBER:    IDA-P-2641
--15 - CONTRACT NUMBER:  MDA903-89-C-0003
--18 - MONITOR ACRONYM:  IDA/HQ, SBI
--19 - MONITOR SERIES:   92-41717, AD-E501 554
--20 - REPORT CLASSIFICATION:  UNCLASSIFIED
--22 - LIMITATIONS(ALPHA): DISTRIBUTION: FURTHER DISSEMINATION ONLY AS
--     DIRECTED BY DEFENSE INFORMATION SYSTEMS AGENCY/DECCO, SCOTT AFB, IL,
--     62225-8300 OR HIGHER DOD AUTHORITY.
--23 - DESCRIPTORS: *TELECOMMUNICATIONS, DATA BASES, INTERNATIONAL,
--     QUALITY CONTROL, VALIDATION, ACCURACY, SAMPLING, INFORMATION
--     PROCESSING.
--24 - DESCRIPTOR CLASSIFICATION:    UNCLASSIFIED
--25 - IDENTIFIERS:      LPN-IDA-T-86-989, SBI1, FISCAL YEAR 92,
--     WWOLS(WORLD WIDE ON-LINE SYSTEM), DBOF(DEFENSE BUSINESS OPERATING
--     FUND)..
--26 - IDENTIFIER CLASSIFICATION:    UNCLASSIFIED
--29 - INITIAL INVENTORY:     2
--33 - LIMITATION CODES:  5
--35 - SOURCE CODE:      179350
--36 - ITEM LOCATION:    DTIC
--40 - GEOPOLITICAL CODE:       5108
--41 - TYPE CODE:  0
--43 - IAC DOCUMENT TYPE:
```

MULTIMEDIA PRODUCTS AVAILABLE ON DROLS

DTIC announced nonprint products currently include videorecordings, magnetic tapes, diskettes, and CD-ROM, and are searchable in the Technical Report database. Their accession numbers are prefixed with ADM (e.g. ADM200002, ADM200024, ADM200030).

Nonprint products are searchable by employing role code **?06** and the single alpha character which represents the media code, or by entering one or more of the nonprint subject terms in the search strategy. Examples of role code and subject term searching are cited below.

Role Code Search

Example 1a for ½ Inch VHS
@str@
infrared signatures
and
?06j
end

Example 2a for Magnetic Tape
@str@
infrared signatures
and
?06k
end

Example 3a for Computer Diskette
@str@
infrared signatures
and
?06l
?06m
?06n
?06p
?06q
?06r
end

Example 4a for CD-ROM
@str@
snow
and
?06s
end

Subject Search

Example 1b
@str@
infrared signatures
and
multimedia(videorecording)
end

Example 2b
@str@
infrared signatures
and
multimedia(magtape)
end

Example 3b
@str@
infrared signatures
and
multimedia(computer diskette)
end

Example 4b
@str@
snow
and
multimedia(cd-rom)
end

Multimedia Codes

Code	Item	Density	Format
J	½ Inch Video Tape		VHS
K	Magnetic Tape		
L	5 ¼ Inch Diskette	Low Density	IBM
M	3 ½ Inch Diskette	Low Density	IBM
N	3 ½ Inch Diskette	Low Density	MAC
P	5 ¼ Inch Diskette	High Density	IBM
Q	3 ½ Inch Diskette	High Density	IBM
R	3 ½ Inch Diskette	High Density	MAC
S	CD-ROM		

TABLE 5

From the examples above you can see there are nine media codes which can be searched with role code **?06**. The media codes are designated with an alpha character (e.g. J,K,L,M,N,P,Q,R,S). If you choose to search with a descriptor (subject term), you have the following four choices: multimedia(videorecording); multimedia(magtape); multimedia(computer diskette); and multimedia(cd-rom). There is not a separate descriptor for each type, size, or density of diskette.

When displaying nonprint citations, the media code (J-S) will appear in field --4, along with the media type (in English) and the accession number for the supporting material. Following the unclassified title in field --6, the media type (i.e., computer diskette) will appear in parentheses. In the pagination field --12, the number of media items and the media cost will be displayed. Accession numbers for accompanying documentation will be repeated in the supplementary note field --21. The abstract field --27, will contain the physical description of the multimedia product (i.e., the number, type, and size of the items and any system requirements such as DOS versions, IBM or MAC computability, etc.). The following example is a citation for a nonprint product with accompanying documentation.

Example:

```
--   1   OF    1
--  1  AD NUMBER: M000024
--  2  FIELDS AND GROUPS: 5/3, 5/9
--  4  MEDIA CODE/DOCUMENTATION:L,(COMPUTER DISKETTE),A231629
--  6  UNCLASSIFIED TITLE: PERSONAL STATEMENT OF
--       MILITARY COMPENSATION (COMPUTER DISKETTE),
-- 11  REPORT DATE:        JUN 14, 1990
-- 12  PAGINATION:          1 MEDIA COST:  $ 20.00
-- 18  MONITOR ACRONYM:  XN
-- 19  MONITOR SERIES:   CMO
-- 20  REPORT CLASSIFICATION:  UNCLASSIFIED
-- 21  SUPPLEMENTARY NOTE: INCLUDES DOCUMENTATION, AD-A231 629.
-- 27  ABSTRACT: FILE CHARACTERISTICS: COMPUTER PROGRAM.
--       PHYSICAL DESCRIPTION: A COMPUTER DISK; 5 1/4 IN. SYSTEM
--       REQUIREMENTS; IBM PC COMPATIBLE; 360K; DOS 2.1; DOT MATRIX
--       PRINTER.. SOFTWARE TO ISSUE MATERIALS FOR LOCAL PRODUCTION
--       OF THE NEW PERSONAL STATEMENT OF MILITARY COMPENSATION
--       (PSMC .
-- 29  INITIAL INVENTORY:      1
-- 33  LIMITATION CODES:  1
-- 35  SOURCE CODE:       264850

--END          << ENTER NEXT COMMAND >>              END --
```

INFORMATION ANALYSIS CENTER (IAC) RECORDS

The DTIC administratively manages and funds several of DoD's contractor operated Information Analysis Centers (IACs). The IACs are basically similar in operation, but dissimilar in subject matter. There may be charges for their services. You can search the TR database for the unique items that have been entered by the following IACs:

CBIAC	Chemical Warfare/Chemical Biological Defense Information Analysis Center
CSERIAC	Crew System Ergonomics Information Analysis Center
CIAC	Ceramics Information Analysis Center
CPIA	Chemical Propulsion Information Agency
GACIAC	Guidance and Control Information Analysis Center
HTMIAC	High Temperature Materials Information Analysis Center
IRIA	Infrared Information Analysis Center
MIAC	Metals Information Analysis Center
MMCIAC	Metal Matrix Composites Information Analysis Center
MTIAC	Manufacturing Technology Information Analysis Center
NTIAC	Nondestructive Testing Information Analysis Center
PLASTEC	Plastics Technical Evaluation Center
SURVIAC	Survivability/Vulnerability Information Analysis Center
TWSTIAC	Tactical Warfare Simulation and Technology Information Analysis Center

The strategy for IAC searching is similar to other searches performed on the online system; the same Boolean Logic applies and each search is terminated with END.

In non-indexed term searching, that is searching by titles, authors, dates, etc., the DTIC accession number assigned to the unique IAC document will automatically be included in your search results. Documents accessioned under these IAC-assigned AD number ranges are not available from DTIC. The DTIC accession numbers assigned to each IAC are:

CBIAC	AD-D750000 thru AD-D799999
CSERIAC	AD-D900000 thru AD-D949999
CIAC	AD-D250000 thru AD-D299999
CPIA	AD-D600 000 series
GACIAC	AD-D500 000 series
HTMIAC	AD-D850 000 thru AD-D899 999
IRIA	AD-D950 000 thru AD-D999 999
MIAC	AD-175 000 thru AD-183 121 and AD-D100 000 series
MMCIAC	AD-D200 000 series
MTIAC	AD-D800 000 thru AD-D849 999
NTIAC	AD-190 000 thru AD-199 999 and AD-D300 000 series
PLASTEC	AD-D400 000 series
SURVIAC	AD-D700 000 thru AD-D749 999
TWSTIAC	No AD range set at this time.

?04 - IAC Accession Number

The IACs have a unique accession number assigned to their documents. The display and sort fields for the IACs appear at the end of a display. You can request these fields when designing your own display format.

---

*NOTE: The hyphen **is required** in this search strategy.*

Example:
```
@str@
?04nt-45560
end
```

NOTE: Many IAC indexed documents are also available from DTIC as AD-A , B, and C documents and both will be listed in the search results.

?45 - IAC Document Type Code

The IAC Document Type Code is a single character used for searching that is assigned by each IAC to identify the type as well as the classification limitations, if any of a document. This search would be used in combination with another search strategy.

IAC Document Type Codes

Code	Explanation
1	Hard Copy
2	Microfiche
3	Microfilm
4	Journal Articles
5	Official Use Only
6	Proprietary
7	Confidential
8	Secret
A	Hard Copy - Secret
B	Microfiche - Secret
C	Hard Copy - Confidential
D	Microfiche - Confidential
E	Hard Copy - Proprietary
F	Microfiche - Proprietary

TABLE 6

Example:
```
@str@
?47%nondestructive
and
?451
end
```

IAC Subject Searching

The publication, *Subject Term Frequency Counts for the DoD IACs*, DTICH 4185.9, contains the subject terms used by the IACs. To conduct a subject search for IAC citations, precede the IAC subject term by that IAC's role code or alpha designation.

IACS=			All IACs
?39	or	D--	CBIAC Subject Terms
?37	or	E--	CERIAC Subject Terms
?35	or	B--	CIAC Subject Terms
?42	or	A--	CPIA Subject Terms
?44	or	G--	GACIAC Subject Terms
?38	or	H--	HTMIAC Subject Terms
?36	or	I--	IRIA Subject Terms
?48	or	M--	MIAC Subject Terms
?43	or	C--	MMCIAC Subject Terms
?40	or	T--	MTIAC Subject Terms
?47	or	N--	NTIAC Subject Terms
?46	or	P--	PLASTEC Subject Terms
?41	or	S--	SURVIAC Subject Terms
Not assigned yet			TWSTIAC Subject Terms

The following examples illustrate how to limit a search of the term NON-DESTRUCTIVE TESTING to NTIAC finds only.

Examples:	@str@		@str@
	?47nondestructive testing	or	n--nondestructive testing
	?47nondestructive testings		n--nondestructive testings
	?47non-destructive testing		n--non-destructive testing
	end		end

The only option available when using the IAC subject terms is truncation **%**. If you use the role code **?47** and truncation, your search pattern should be:

Example:
```
@str@
?47%nondestructive
end
```

If you use the letter designation **N** and truncation, your search pattern should be:

Example:
```
@str@
%n--nondestructive
end
```

To receive both TR and IAC documents, enter subject terms spelled as they appear in the publication, *Subject Term Frequency Counts for the DoD IACs*, DTICH 4185.9. Your search pattern should be:

Example:
```
@str@
nondestructive testing
%n--nondestructive
end
```

Global Searching of IAC Terms

IAC global searching provides the capability to enter a search key that will expand a single search term to terms with the unique IAC subject prefixes.

Command formats are:

IACS=search term or **IACS=%search term.**

The **IACS=%search term** format provides truncation capability for each generated IAC prefixed term.

Examples:

```
@str@                    or    @str@
iacs=radar                     iacs=%radar
end                            end
```

CURRENT FILE TECHNICAL REPORT DATABASE

The Current File (CF) is a holding file for items being processed by DTIC for addition to the TR database. This file contains records that are added daily and cumulated over a two week period. Since these records are still in processing, they do not have complete cataloging data, (i.e., subject terms and abstracts). Therefore, searching by index terms and ordering are not available.

There are circumstances when searching the CF database may be useful. For example, you may want to check for the most recent material processed on a particular contract or authored by a particular organization. The search command for "Search Current File" is **@SCF@**. All searches made in the current file are constructed the same as searches performed in the TR file. However, there are fewer field identification codes used in the CF. (See Appendix 3 for the search fields applicable to this database.)

WORK UNIT DATABASE

The Work Unit (WU) database is a collection of technically oriented summaries describing DoD research and technology efforts at the work unit level. NASA efforts are also included. This database includes information concerning the what, where, when, how, at what costs, by whom, and under what sponsorship research is being or has been performed.

System functions in the WU database are: Search, Display, Recall, Transfer, List, Sort, Order and Qualify. The search command for "Search Work Unit" is **@SWU@.** All searches are constructed basically the same as in the TR database. However, the accession date automatic default is for all years. See Table 1. In addition, there are more field identification codes used in the WU database and many differ from those in the TR database. Use Appendix 3 to assist in developing strategies.

WU DATABASE - MNEMONIC OPTION

Unlike the TR database, which uses role codes, mnemonics are used to search the WU database. Each mnemonic identifies and searches a specific data field. (See Appendix 3 for the mnemonic assignments.) Identify this field with the proper mnemonic, followed by the appropriate data.

SE - Status of Effort

There are two basic groups of WU records; active and inactive. Active records consist of ongoing research where the summary is either New, Changed, or Planned. Inactive records consist of research where the summary is Terminated or Completed. The alpha codes for status of effort are:

Active	*Inactive*
N - New	C - Completed
D - Changed	T - Terminated
P - Planned	

AND - Agency Digraph

This is a designator that identifies the agency responsible for the work unit effort. Among the searchable codes that are frequently used are those for the name of the agency submitting the work unit record. Suppose you are interested in identifying the WU records submitted by a particular agency. The mnemonic to search the Agency Digraph is **AND**. The agency search statement consists of the mnemonic **AND** and the digraph identifying the agency (See Table 7, page 2-31 and Table 8 on page 2-32).

Defense Agencies Digraph

Digraph	*Dept./Agency*
DA	- Department of the Army (DA)
DB	- Defense Mapping Agency (DMA)
DD	- Department of Defense - Office of the Secretary of Defense (OSD), Offices of the Under Secretaries of Defense (OUSD), and Offices of the Assistant Secretaries of Defense (OASD)
DE	- Advanced Research Project Agency (ARPA)
DF	- Department of the Air Force (DAF)
DG	- National Security Agency (NSA)/Central Security Service (CSS)
DH	- Defense Nuclear Agency (DNA)
DJ	- Joint Chiefs of Staff (JCS), including the Joint Staff, Unified or Specified Commands, and Joint Service Schools
DK	- Defense Information Systems Agency (DISA)
DL	- Defense Intelligence Agency (DIA)
DM	- United States Marine Corps (USMC)
DN	- Department of the Navy (DN)
DP	- United States Coast Guard
DR	- Defense Contract Audit Agency (DCAA)
DS	- Defense Logistics Agency (DLA)
DT	- Defense Security Assistance Agency (DSAA)
DU	- Defense Audit Service (DAS)
DV	- Defense Investigative Service (DIS)
DW	- Uniformed Services University of the Health Sciences (USUHS)

TABLE 7

Other Federal Agencies Digraph

Digraph	*Dept./Agency*
AX	- Department of Agriculture
CX	- Department of Commerce
WA	- Department of Energy
WC	- Federal Emergency Management Agency
TG	- General Services Administration
ZX	- Department of Health and Human Services
MX	- Department of Housing and Urban Development
KX	- Department of Interior
FX	- Department of Justice
BX	- Department of Labor
VN	- National Aeronautics and Space Administration
WS	- National Science Foundation
XX	- U.S. Postal Service
SX	- Department of State
GX	- Department of Transportation
QX	- Department of Treasury
VA	- Veteran's Administration

TABLE 8

To search for active work units that were submitted by DoD agencies, the following strategy would be used:

Example:
```
@swu@
se=n
se=d
se=p
and
and=dd
end
```

PM - Performance Method

To identify whether the work will be performed in-house, by grant, by contract, etc. a 1-alpha code that identifies the performance method must be included with the mnemonic. The entry must be one of the following codes:

I	In-house	Work performed within a DoD activity.
C	Contract	Work performed by contract for a DoD activity.
G	Grant	Work performed by grant for a DoD activity.
T	Transfer	Work performed by a U.S. Government Agency other than DoD, i.e., Department of Energy.
U	Unfunded Studies	Unfunded work performed by a potential contractor to a DoD activity.
F	Foreign Development	Work performed with a foreign company.

To find out how many new records are grants, the following strategy would be used:

```
Example:  @swu@
          se=n
          and
          pm=g
          end
```

SI - Performance Type

This field is used to identify basic kinds of records; i.e., those with different input requirements and various edit criteria. The following values must be used.

S - Small Business Innovative Research (SBIR)
M -In-House Management Analyses and Studies (IMAS)
R - RDT&E Work Unit (RDTE)
C - Contracted Studies, Analysis and Evaluations (CSAE)
T - Cooperative R&D Agreements (CRDA)
U - University Research Initiative (URI)
I - Interagency Cost Reimbursement Order (IACRO)
P - Military Interdepartmental Procurement/Purchase Request (MIPR)
J - Project Order (PJO)

To find work units on LASER WEAPONS that reflect In-house Management Analyses and Studies (IMAS), the following strategy would be used.

Example: @swu@
laser weapons
and
si=m
end

RD - Date of Summary

The WU database may be searched for the date of summary using the standard format YYMM (YY=year; MM=month) and the mnemonic RD. These searches are performed in conjunction with other search statements to further focus your search results. To find work units on INFRARED EQUIPMENT that were issued with a summary date of June 1981, the following strategy would be used:

Example: @swu@
$infrared equipment
and
rd=8106
end

It is also possible to incorporate summary date range limits in the search statement. When the date range option is used, a search term is generated for each month in the range. Thus, each month counts toward the 300/525 term search limit. For example: to search from June 1989 through June of 1990, the strategy would appear as follows:

Example: @swu@
$infrared equipment
and
rd=8906-9006
end

It is also possible to perform a truncation by an individual year. For example to search for all report dates of 1993 the following strategy would be used.

Example: @swu@
$infrared equipment
and
rd=%93
end

NOTE: Date span searches must include the hyphen (-) between the lower and upper end of the range.

PRD - Date of Preceding Summary

Searching the date of the original record that is now undergoing modification may be performed by using the standard format YYMM (YY=Year; MM=Month) and the mnemonic PRD. This type of search should be performed in conjunction with additional search statements to refine your search results.

To locate preceding summaries performed under a local control (work unit) number, the strategy is as follows.

Example:
```
@swu@
lcn=617
and
prd=8703
end
```

SDT - Start Date of Effort

To search for the planned or actual start date of a work unit, use YYMM (YY=Year; MM=Month).

To locate summaries indexed on the term phrase RADAR BACK-SCATTER where the start date of the effort is May 1979, the strategy is:

Example:
```
@swu@
radar backscatter
and
sdt=7905
end
```

NOTE: If Status of Effort is P (PLANNED), this element will show the date that the work unit effort is projected to be established.

If Status of Effort is N (NEW) or D (CHANGED):

a) And the Performance Method is I (IN-HOUSE), this element will show the date that the performing activity initiated action on the effort.

b) And the Performance Method is C (CONTRACT), G (GRANT), U (UNFUNDED), or F (FOREIGN CO-DEVELOPMENT) this element will show the date that the effort started.

c) And the Performance Method is T (TRANSFER), this element will show the effective date of the fund-transfer document.

EDT - End Date

When searching for the planned or actual ending date of a work unit effort the search method is similar to the one used for searching the start date **SDT.**

NOTE: If Status of Effort is P (PLANNED), this element will show the date that the effort is projected to be completed.

If Status of Effort is N (NEW) or D (CHANGED):

a) And the Performance Method is I (IN-HOUSE), this element will show the date that the performing activity contemplates completing the effort.

b) And the Performance Method is C (CONTRACT), G (GRANT), U (UNFUNDED), or F (FOREIGN CO-DEVELOPMENT) this element will show the completion date of effort.

c) And the Performance Method is T (TRANSFER), this element will show the end date of the fund-transfer document.

To locate summaries indexed on the term phrase AIRCRAFT WEAPONS where the end date of the effort is March 1970, the strategy is:

Example:
```
@swu@
aircraft weapons
and
edt=7003
end
```

ECC - Effort Security Classification - Code

Each work unit is assigned one alpha code that pertains to the overall security classification of the work described in the record. Valid entries are:

T - Top Secret
S - Secret
C - Confidential
U - Unclassified

To search for new and changed work units indexed on the term phrase CIRCUIT BOARDS that are coded unclassified, the following strategy is used.

Example: @swu@
circuit boards
and
se=n
se=d
and
ecc=u
end

ECA - Effort Security Classification - Additional Notice

This is a notation describing warning notices carried in addition to the overall classification of the work described in the record.

In addition searching security classifications, you may limit your search by use of the additional security category by the Atomic Energy Act. The two 2 alpha codes are:

RD - Restricted Data
FRD - Formerly Restricted Data

Example: @swu@
atomic
and
eca=frd
end

RCC - Record Security Classification - Code

This identifies the classification of data in the record and denotes the highest classification code of the classified elements (Objective, Approach, Progress, and Product Title). On any search of the WU database, you may limit your search to certain security classifications. These should be used in conjunction with another search term and should never be the first level of the search strategy. A valid entry shall consist of one of the following codes:

S - Secret
C - Confidential
U - Unclassified

Examples of classified and unclassified searches of new Army summaries are:

Examples:	*Classified*	*Unclassified*
	@swu@	@swu@
	and=da	and=da
	and	and
	se=n	se=n
	and	not
	rcc=s	rcc=s
	rcc=c	rcc=c
	end	end

RCA - Record Security Classification - Additional Notice

In addition to searching security classifications, you may limit your search by use of the additional security category imposed by the *Atomic Energy Act*. There are two alpha codes for additional security restrictions. They are:

RD - Restricted Data
FRD - Formerly Restricted Data

To locate summaries on ELECTROMAGNETIC PULSES that contain formerly restricted data, the strategy is:

Example:
```
@swu@
electromagnetic pulses
and
rca=frd
end
```

RGC - Regrading Code

If a work unit is classified secret or confidential, a 1-alpha code is required that notes the guidance or regulation for regrading the record. Valid entries are:

D - Record with downgrading date or event
E - Record with a declassification date or event
F - Foreign Source
O - Record with Originating Agency's Determination Required
R - Restricted Data (RD) record or Formerly Restricted Data record (FRD) (Atomic Energy Act)

To locate terminated Air Force summaries that reflect a declassification date or event, the strategy is:

Example:
```
@swu@
and=df
and
se=t
and
rgc=e
end
```

RGD - Regrading Date

Certain work units are classified secret or confidential. The mnemonic **RGD**, (Regrading Date) identifies the date that a secret record will be downgraded to confidential, or the date a confidential record will become declassified. Use YYMM (YY=Year; MM=Month) to search this field.

To locate summaries on RADAR JAMMING where the descriptor classification is confidential and the regrading date was set for December 1990, the strategy is:

Example:
```
@swu@
radar jamming
and
dec=c
and
rgd=9012
end
```

RE - Regrading Event

This identifies the event that will occur when the secret information in the record will become confidential, or identifies the event that will occur when the confidential information in the record will become declassified. For those summaries lacking a specific date/event, *OADR - Originating Agency's Determination Required* may be used instead.

To locate summaries submitted by the NAVAL SEA SYSTEM COMMAND, Washington, DC, that were generated February 1992 where the regrading event will be determined by the originating agency, the strategy is:

Example:
```
@swu@
rsc=391345
and
rd=9202
and
re=oadr
end
```

DC - Distribution Code

To limit a search to summaries with specific distribution statements, use the 1 alpha code assigned for distribution limitation. The entry must be one of the following codes:

A - Distribution Unlimited

B - U.S. Government Agencies only

C - U.S. Government Agencies and their Contractors

D - DoD and U.S. DoD Contractors Only

E - DoD only

To retrieve only those new Air Force WU summaries that are available to DoD agencies and their contractors, use the following search statement.

Example:
```
@swu@
and=df
and
se=n
and
dc=d
end
```

DR - Distribution Reason

This is the code that corresponds to the justification for restricting availability and distribution of the work unit record. Valid entries are:

FG - Foreign Government Information
PI - Proprietary Information
CL - Critical Technology (Export Controlled)
TE - Test and Evaluation
CN - Contractor Performance Evaluation
PD - Premature Dissemination (to protect patentable data)
AD - Administrative or Operational Use data
SW - Software Documentation
SA - Specific Authority (Reason other than above)
DM - Direct Military Support (Export Controlled)
PB - Public Release

To find active work units pertaining to COMBAT where availability is restricted to foreign governments, the strategy would be:

Example:
```
@swu@
combat
and
se=n
se=d
se=p
and
dr=fg
end
```

TI - Title (Unclassified)
TI5 - Title (Unclassified)
TIA - Title (Unclassified)

The title searching feature provides access three ways; Free Text searching **TI**, First Five Words of a Title **TI5**, or you may use the Search Key Algorithm **TIA** which is constructed from the first five words of the title. See Search Key Algorithm on page 2-14. The strategies used to search the WU database for titles are the same as in the TR database; however, mnemonics are used in place of role codes.

Example:
```
Free Text
@swu@
ti=minor
and
ti=munitions
and
ti=study
end
```

NOTE: When using free text method only single terms may be used.

TI5 - First Five Words of Title

Example:
```
@swu@
ti5= minor caliber munitions effectiveness study
end
```

TIA - Search Key Algorithm

Example:
```
@swu@
tia=mcalimunefst
end
```

SRI - Subordinate Record Indicator

This identifies the work unit as a part of a larger contract or grant effort. This search is usually performed in conjunction with other search statements further clarifying the search results. Use the subordinate record code **S** with the mnemonic **SRI**.

To locate summaries on AIRCRAFT that are subordinate components of another work unit the strategy is:

```
Example:  @swu@
          aircraft
          and
          sri=s
          end
```

LAN - Linking Accession Number

When looking for a subordinate work unit record, the Linking Accession Number identifies the agency accession number of the work unit(s) to which this record is subordinate or a component. If the subordinate record indicator is **S**, an entry in this field is required.

```
Example:  @swu@
          lan=da307243
          end
```

LCN - Local Control (Work Unit) Number

This is an additional number assigned by a DoD facility to provide local control or documentation of the work unit effort. The work unit number is searched as follows:

```
Example:  @swu@
          lcn=139064
          end
```

SCH - Search Data

Those work unit efforts that require a preliminary literature search will have the search control number and date assigned to the inquiry **SCH** field. N/A is entered by the contributor if the work unit does not require a DROLS literature search. This element is searchable if its value is not equal to N/A. It also creates a searchable field of **Y** when a value other than N/A is present.

```
Example:  @swu@
          sch=bnn21j
          end
```

FG, FG1 - DoD Subject Categories

Another way to describe the subject of a work unit, is by its DoD subject category code. Each subject category code entry is a four or six digit number which consists of a two digit field and two or three two-digit subcategories. These are listed in Appendix 10. You may search

these codes alone or in combination with other information. An example of a search by the subject category code for ATMOSPHERIC PHYSICS is:

```
Example:  @swu@
          fg=0401
          end
```

To search active Navy work units that are in the scientific area STRESS PHYSIOLOGY, the strategy would be:

```
Example:  @swu@
          fg=0610
          and
          and=dn
          and
          se=n
          se=d
          se=p
          end
```

Think about the order of this statement. Why not put the mnemonics **AND** and **SE** statements first? As far as the logical results are concerned, it doesn't matter. But think about what the computer is doing. First it looks through the Inverted File to find items that satisfy the first level. Then it looks to find items that satisfy the second level as well, and so on. If the mnemonic **AND** statement is first, the first level search will find all Navy work units; if the mnemonic **SE** is next, it will pick out the active records and look for those items indexed on stress physiology code. Such an approach takes more time than starting with the stress physiology search statement. Whenever you plan a search strategy, enter statements on the first level that are likely to give the fewest results.

MC, MC1 - Mission Area Code

This code corresponds to the mission area definition for the work unit record. This element is also searchable by primary occurrence. **MC** displays **MC1, MC2,** and **MC3** data. **MC1** displays **MC1** data, etc.

NOTE: Decimal points are required. (See Appendix 11).

```
Example:  @swu@
          mc=1.1
          end
```

FC, FC1 - Function Code

This code corresponds to a function area definition for the work unit record. This element is also searchable by primary occurrence. **FC** displays **FC1, FC2,** and **FC3** data. **FC1** displays **FC1** data, etc.

NOTE: Decimal points are required. (See Appendix 11.)

Example:
```
@swu@
fc=11.2
end
```

TE, TE1 - Technology Code

This code corresponds to a technology definition for the work unit record. The basis for the code is the *Military Critical Technology List (MCTL).* This element is also searchable by primary occurrence. **TE** displays **TE1, TE2,** and **TE3** data. **TE1** displays **TE1** data, etc.

NOTE: Decimal points are required. (See Appendix 11.)

Example:
```
@swu@
te=2.4.1
end
```

RSC - Responsible Organization - Source Code

All organization names are coded for economical storage and retrieval. To search for a particular organization, the first step would be to look up that organizations source code in the *Source Header List.* For example, the source header code for the ARMY ELECTRONICS COMMAND, Fort Monmouth, NJ is 037620. This code is used with the mnemonic as follows:

Example:
```
@swu@
rsc=037620
end
```

It is also possible to search whole families of organizations. You can search all subsets of any source name in the hierarchy by using the hierarchy option symbol **$** immediately in front of the source code. This hierarchical search pattern is equivalent to searching the individual source codes of the family.

Example:
```
@swu@
rsc=$037620
end
```

RLC - Responsible Organization - Location - City

This field is generated by the WU based on the responsible organization - source code. The city name is part of the source name. It can also be found in the *Source Header List.*

Example:
```
@swu@
rlc=orlando
end
```

RLS - Responsible Organization - Location - State/Country

Each state and country is assigned a two character code that pertains to the performing organizations location. State codes consists of two numeric characters. Foreign country codes consist of two alpha characters. This field is generated by the WU based on the responsible organization - source code.

Example:
```
@swu@
rls=fl
end
```

RLG - Responsible Organization - Location - Geopolitical Code

This field is generated by the WU based on the responsible organization - source code. (See Appendix 8, also found in the Source Header List.) For domestic institutions, this is the Congressional District.

NOTE: When searching for Performing Organization or Responsible Organization the same method is used.

Example:
```
@swu@
rlg=2407
end
```

RLZ - Responsible Organization - Location - Zip Code

This field is generated by the WU based on the responsible organization - source code. (See Appendix 8, also found in the Source Header List.)

NOTE: When searching with the full 9-digit zip code, eliminate the hyphen and pack the number.

Examples:
```
@swu@                    or    @swu@
rlz=223046145                  rlz=%22304
end                            end
```

PERSONAL NAME SEARCHES

AU - Performing Organization - Principal Investigator Name
P2N - Performing Organization - Associate Investigator Name
RIN - Responsible Organization - Responsible Individual Name

Searching for individual names in the WU database is complicated by the fact that all names have not been entered in a standard format. All possible variations on the standard format, with and without initials, can be found. You can use a single search statement, truncating the individual's last name, or a combination of first initial truncation statements to narrow the field.

Standard Format	*Last name Truncation*	*Combination Truncation*
@swu@	@swu@	@swu@
au=harmon, j w	au=%harmon	au=%harmon, j
end	end	end

Last name truncation results in hits not only on the identified last name, but also on all last names beginning with these letters.

RIO - Responsible Organization - Responsible Individual Office Symbol/Code

This field is generated by the WU database based on the office symbol of the responsible individual within the responsible DoD organizations office symbol or code. To locate work units where the responsible organization is NAVAL SEA SYSTEMS COMMAND (NSEA) DIR OCN ENGRG/SUPERV OF SALVAGE the office symbol is NSEA-OOC.

Example:
```
@swu@
rio=nsea-ooc
end
```

NOTE: This field requires the inclusion of all special characters, such as hyphens (-) and slashes (/).

SC - Performing Organization - Source Code

Searching for a performing organization follows exactly the same pattern as searching for a responsible organization, only the mnemonic is different. The hierarchy option can also be used with this mnemonic. If you were looking for LITTON SYSTEMS, INC., Minneapolis, MN, for which the code is 209360, the strategy would appear as:

Examples:
```
@swu@                    @swu@
sc=209360          or    sc=$209360
end                      end
```

NOTE: Consult the DTIC Source Header List for available source codes.

PLC - Performing Organization - Location - City

Searching on the city where the performing organization is located is possible by using the PLC mnemonic combined with the complete spelling of the city. This field is generated by WU based on performing organization - source code.

Example:
```
@swu@
plc=bethesda
end
```

SCC - Performing Organization - Location - State/Country

Each state and country is assigned a two character code that pertains to the performing organizations location. State codes consists of two numeric characters. Foreign country codes consist of two alpha characters.

To locate summaries generated between January 1989 and June 1991 where the performing organizations location is Maryland, the strategy is:

Examples:
```
@swu@
scc=24
and
rd=8901-9106
end
```

NOTE: When date range searching in the WU database the hyphen is required.

PLZ - Performing Organization - Location - Zip Code

This field is generated by WU based on Performing Organization - Source Code.

NOTE: When searching with the full 9-digit zip code, eliminate the hyphen and pack the number.

Examples:
```
@swu@                    @swu@
plz=208504311      or    plz=%20850
end                      end
```

GC - Performing Organization - Location - Geopolitical Code

Information in this field is generated by WU based on performing organization - source code. For domestic institutions, this is the Congressional District.

Example: @swu@
gc=2405
end

OT - Performing Organization - Type Code

This is a one alpha code that identifies the performing organization type. This type of search is usually combined with other search statements to clarify the desired search results.

Performing Organization Type Codes

U.S. Organizations

A - Army
B - Labor
C - Commerce
D - DoD (Departmental Offices)
E - Environmental Protection Agency
F - Air Force
G - Agriculture
H - Health, Education, and Welfare
I - Interior
J - Justice
K - Department of Energy
L - Federal Legislative Branch
M - Department of Education
N - Navy and Marine Corps
P - Post Office
Q - Quasi-Federal (NRC)
R - Treasury
S - State
T - Transportation
U - Housing and Urban Development
V - State/Municipal Government
W - Not-for-Profit/Non-Academic
X - Executive
Y - DoD Agencies
Z - Independent Federal Agencies

TABLE 9

Performing Organization Type Codes

Foreign Organizations

0 - Public or State Academic Educational Institutions
1 - Private Academic Educational Institutions
2 - Federal Contract Research Centers
3 - Other Academic Institutions and Institutes
4 - Industrial/Commercial
5 - Miscellaneous
6 - Academic and Nonprofit
7 - Industrial/Commercial
8 - Government
9 - International

TABLE 10

Example:
```
@swu@
ot=e
end
```

PIO - Performing Organization - Principal Investigator Office Symbol/Code

Searching on the performing organization - principal investigator office symbol/code can be accomplished by using the mnemonic PIO combined with the appropriate entry. Office symbol or code must not exceed 12-alpha/numeric characters.

Example:
```
@SWU@
pio=3572
end
```

PE - Primary Funding Data - PE Number
PEP - Primary Funding Data - Primary PE Number

Identifies the primary program element number, assigned by the organization providing the largest amount of funding for a given fiscal year. Program element numbers can be searched by the full eight character number or by the second and fourth characters. The following search is for active records on a specific program element number.

Example:
```
@swu@
pe=0603721n
and
se=n
se=d
se=p
end
```

or

```
@swu@
pe=63
and
se=n
se=d
se=p
end
```

*NOTE: **PE** will search all occurrences of a program element number, **PJ** will search all occurrences of a project number, and **TN** will search all occurrences of a task number.*

PJ - Primary Funding Data - Project Number
PJP - Primary Funding Data - Primary Project Number

Identifies the primary project number corresponding to the program element number providing the largest funding data in the given fiscal year. If DoD Program 6 (RDT&E) funding, enter the next most complete program identifier assigned by the funding activity. Normally, this will be the project number or an equivalent number depending upon the program. Along with the program element, this number should completely identify the program source of funds. If it is another DoD appropriation, the acronym of the sponsoring DoD component may be entered. If it is non-DoD funding source, the activity acronym may be entered.

Example:
```
@swu@
pj=sf35388
end
```

TN - Primary Funding Data - Task Number
TNP - Primary Funding Data - Primary Task Number

You may search on task numbers that provide the largest amount of funding data in the fiscal year. Eliminate all punctuation and pack the number.

FFY FF1 - Primary Funding Data - Fiscal Year

The fiscal year designation for in-house activities is the program fiscal year (or fiscal year in which obligational authority is granted to the in-house program) and for contracting activities, the appropriation fiscal year for the funds that are applied to the contract/grant.

In the case of planned data sets, it shows the fiscal year in which funding is anticipated.

To locate summaries on ARMORED VEHICLES where the fiscal year funding was granted in 1989, the strategy is:

Example:
```
@swu@
armored vehicles
and
ffy=%89
end
```

FRI - 2nd Contributing Funding Data - Rollup Indicator

This identifies if the second contributing funding data for the fiscal years represents multiple funding sources. A Yes or No indicator is applied to the second contributing funding data to represent multiple funding sources.

CT - Contract/Grant Transfer Number

This is the identifying number assigned to a contractual or fund-transfer instrument: a contract **PIN** number, a grant number, or an inter-agency fund-transfer document number. If the status of effort is **P** (PLANNED), the procurement request number may be used. This element is searchable by the first six characters as well as by the entire number.

Example:
```
@swu@
ct=n0001479c0817
end
```

CED - Contract/Grant Effective Date

This element is searchable by YYMM or YY.

Examples:
```
@swu@                    or    @swu@
ced=7907                       ced=%79
end                            end
```

CEX - Contract/Grant Expiration Date

This element is searchable by YYMM or YY.

Examples:
```
@swu@                    or    @swu@
cex=7704                       cex=%77
end                            end
```

KW - Keywords

Keywords are contributor-supplied search terminology that assist the user to readily identify and retrieve pertinent information. Keywords may be a single word or a combination of words. The total length, including spaces, cannot exceed 60 characters.

NOTE: Keywords are not included in the DTIC Thesaurus.

Example:
```
@swu@
kw=light armored vehicle air defense (lav-ad)
end
```

OBJ - Objective

The objective field provides a technical description of the objectives of the research. Normally, this statement should remain the same throughout the life of the work unit. If it changes significantly, this is usually an indication that the work unit should be completed or terminated and a new work unit originated.

NOTE: Only single terms can be used when searching this field.

Example:
```
@swu@
obj=viking
and
obj=images
end
```

APP - Approach

The approach field provides a technical description of the approach of the research.

NOTE: Only single terms can be used when searching this field.

Example:
```
@swu@
app=flight
and
app=test
end
```

PRG - Progress

The progress field contains a cumulative series of statements describing the progress made on the work unit effort.

NOTE: Only single terms can be used when searching this field.

Example:
```
@swu@
prg=high
and
prg=energy
and
prg=missiles
end
```

PIT - Product ID Title

This field contains a brief title or description of product(s) resulting from the work unit effort. This element is searchable by word inversion.

NOTE: Only single terms may be used when searching this field.

Example:
```
@swu@
pit=product
and
pit=title
and
pit=4
end
```

PIN - Product ID Report Number

This field contains the contributor's identification code for the product; (i.e., a report number).

NOTE: At the time of this writing, there is no data in this field. The example below is hypothetical.

Example:
```
@swu@
pin=1191952
end
```

PAN - Product AD Number

The AD number assigned to a published document. In addition to identifying products resulting from the work unit effort, this data element will be used to cross check against other files, such as DTIC's document collection and bibliographic database to assist in acquisition of input to these collections.

NOTE: At the time of this writing, there is no data in this field. The example below is hypothetical.

Example:
```
@swu@
pan=ada1[illegible]56
end
```

PI - Product Indicator

This field contains a Yes or No indicator showing that a technical report or other product was or will be submitted to DTIC.

To find Department of the Army summaries generated in 1992, where a technical report was or will be submitted to DTIC's TR database, the strategy is:

Example:
```
@swu@
and=da
and
rd=%92
and
pi=y
end
```

DTT - Domestic Technology Transfer (Civilian Applicability)

The data in this field indicate whether the work unit effort is considered to have results which may be applicable to the civilian sector.

The entry must be one of the following:

HI - High potential for civilian application
LO - Low potential for civilian application
NO - No potential for civilian application

To search for summaries on AIRCRAFT ENGINES that have high potential for civilian application, the strategy is:

Example:
```
@swu@
aircraft engines
and
dtt=hi
end
```

SAC - Studies and Analysis Categories

This is required only for studies and/or Committee on Academic Science and Engineering (CSAE) work units, where the performance type is C or M. Valid entries are:

1 - Manpower and Personnel
2 - Concepts and Plans
3 - Operations and Force Structure
4 - Installations and Logistics
5 - Science, Technology, Systems and Equipment
6 - Management
7 - Intelligence
8 - International Security
9 - Social and Natural Science Studies

To locate summaries that reflect MILITARY PERSONNEL in the descriptor field and that also contain information on OPERATIONS and FORCE STRUCTURE, the strategy is:

Example:
```
@swu@
de=military personnel
and
sac=3
end
```

SSS - Special Study Subjects

This element identifies models and code words, sensitive material and foreign area studies. Required only for studies and/or CSAE work units where the performance type is C or M. Valid entries are:

- SM - Models (Study develops or depends upon a major computer-operated model)
- BC - Identifies data bases using code word or specifically sensitive material
- SB - Studies-related bibliographies, state- of-the-art surveys, etc.
- SD - Uses or develops databases
- MA - Develops study methods or approaches
- OR - Systems analysis, operations research analysis, policy analysis
- CE - Cost benefit or economic analysis
- FS - Force structure analysis
- RA - Resource allocation
- TG - Target selection analysis
- CA - Capability analysis
- FE - Feasibility analysis
- TA - Threat analysis
- SF - Foreign area social science research
- SP - Foreign area policy planning research
- BF - Identifies databases with data on foreign forces or equipment, whether or not these have been provided by the intelligence community

To locate summaries on WEAPONS SYSTEMS that reflect information pertaining to study methods or approaches, the strategy is:

Example:
```
@swu@
weapons systems
and
sss=ma
end
```

ANA - Activity Code

A four digit code that identifies a responsible organization within a particular digraph. This element must be searched with the agency digraph preceding the four digit activity code.

Example:
```
@swu@
ana=daisni
end
```

PSN - Primary Project Serial Number

Searches the last three characters of the actual twelve character primary project number. Required only for Army-generated work units. The agency digraph is DA.

To locate summaries on WEAPONS SYSTEMS generated by the Department of the Army and performed under a specific project number, the strategy is:

Example:
```
@swu@
weapon systems
and
and=da
and
psn=h57
end
```

PD - Processing Date

This field contains the date that the record is processed into the WU database. This date appears on output. The element is searchable by YY and YYMM.

To locate summaries on SURFACE WARFARE that were input into the WU database on a particular date, the strategy is:

Example:
```
@swu@                    or    @swu@
surface warfare                surface warfare
and                            and
pd=%90                         pd=9008
end                            end
```

RCD - Receipt Date

This is the date that DTIC receives the work unit tape or diskette from the contributor. This element is searchable by YYMM.

To locate the date that DTIC received a work unit summary from a contributor, the strategy is:

Examples:

```
@swu@
sc=398612
and
rcd=9301
end
```

or

```
@swu@
sc=398612
and
rcd=%93
end
```

DEC - Descriptors - Classification Code Overall

This is the one alpha character that reflects the overall classification of the descriptors. Valid entries are:

U - Unclassified
C - Confidential
S - Secret

Example:

```
@swu@
laser weapons
and
dec=c
end
```

DE - Descriptors

Descriptors are terms or term phrases, taken from the *DTIC Thesaurus*, that expresses the major concepts for the technical effort being described.

Example:

```
@swu@
de=reconnaissance aircraft
end
```

THR TH1 - Thrust Indicator

This field will indicate the technology thrust area for the work unit. This element is also searchable by primary occurrence.

NOTE: At the time of this writing, this field contains no data. Additionally, values have not been determined.

SUB - Descriptors, Keywords, Title

This mnemonic allows the user to search descriptors, keywords, and titles at one time.

Example:

```
@swu@
sub=combat ready
end
```

NAR - Title, Progress, Approach, Objective

This mnemonic allows the user to search all the narrative fields at one time, i.e., title, progress, approach, and objective by the term/terms entered.

NOTE: Single terms only may be used when searching with the NAR mnemonic.

Example: @swu@
nar=desert
and
nar=storm
end

Citation Example:

```
--AN(1)       - AGENCY ACCESSION NUMBER:    DS000275
--ANA(1A)     - ACTIVITY CODE:  DLA
--TT(2)       - TRANSACTION TYPE:  A
--SE(3)       - STATUS OF EFFORT:     NEW
--PM(4)       - PERFORMANCE METHOD:   IN-HOUSE
--PI(5)       - PERFORMANCE TYPE:     IMAS
--RD(6)       - DATE OF SUMMARY:       8 MAR 93
--SDT(8)      - START DATE OF EFFORT:  0 NOV 91
--EDT(9)      - END DATE:         0 DEC 92
--ECC(10)     - EFFORT SECURITY CLASSIFICATION CODE:    UNCLASSIFIED
--RCC(12)     - RECORD SECURITY CLASSIFICATION CODE:    UNCLASSIFIED
--DC(18)      - DISTRIBUTION CODE:    DISTRIBUTION UNLIMITED
--DR(19)      - DISTRIBUTION REASON:  PB
--TI(20)      - TITLE (UNCLASSIFIED): INDUSTRIAL BASE PROGRAM ITEM SELECTION
--     INDICATOR ANALYTICAL ENHANCEMENTS
--LCN(25)     - LOCAL CONTROL (WORK UNIT) NUMBER: DLA-93-P20047
--PG(25)      - DOD SUBJECT CATEGORIES:
--       0503    ECONOMICS AND COST ANALYSIS
--       1204    OPERATIONS RESEARCH
--       1505    LOGISTICS, MILITARY FACILITIES AND SUPPLIES
--RSC(27)     - RESPONSIBLE ORG. SOURCE CODE:     410447
--RAN(27.1)   - RESPONSIBLE ORG. ACTIVITY NAME:   DEFENSE LOGISTICS AGENCY
--      ALEXANDRIA VA
--RLC(27.3A)  - RESPONSIBLE ORGANIZATION CITY:     ALEXANDRIA
--RLS(27.3B)  - RESPONSIBLE ORGANIZATION STATE/COUNTRY:       VA
--RLZ(27.3C)  - RESPONSIBLE ORGANIZATION ZIP CODE:      22314
--RLG(27.3D)  - RESPONSIBLE ORGANIZATION GEOPOLITICAL CODE:   5108
--RIN(27.4)   - RESP. INDIV.     FABRIE, BOB
--RIO(27.5)   - RESP. INDIV. OFFICE SYMBOL & CODE:       DLA-PR
--RIP(27.6)   - RESP. ORG. PHONE NUMBER:     730-274-6451
--RIA(27.7)   - RESP. INDIV. DSN NUMBER:     284-6451
--SC(28)      - PERFORMING ORG. SOURCE CODE:      410447
--POA(28.1)   - PERFORMING ORG. ACTIVITY NAME:    DEFENSE LOGISTICS AGENCY
--      ALEXANDRIA VA
--PLC(28.3A)  - PERFORMING ORGANIZATION CITY:      ALEXANDRIA
--SCC(28.3B)  - PERFORMING ORG. LOCATION - STATE/COUNTRY:      VA
--PLZ(28.3C)  - PERFORMING ORG. LOCATION - ZIP CODE:     22314
--GC(28.3D)   - PERFORMING ORG. LOCATION - GEOPOLITICAL CODE: 5108
--(Y(28.3E)   - PERFORMING ORGANIZATION  - TYPE CODE:    Y
--AU(28.4)    - PRIN. INVESTIGATOR:    NAPIER, JEFF
--PIO(28.5)   - PRIN. INVEST. OFFICE SYMBOL:       DLA-LO
--PIP(28.6)   - PRIN. INVEST. PHONE NUMBER: 804-275-4480
--PIA(28.7)   - PRIN. INVEST. DSN NUMBER:    695-4480
--P2N(28.8)   - ASSOCIATE INVESTIGATORS:
--P2N1(28.8A) - 1ST ASSOC. INVESTIGATOR:     MELIUS, MARK
```

```
--KW(35)     - KEYWORDS:          ITEM SELECTION INDICATOR ;  SECTOR
--       SELECTION INDICATOR ;  INDUSTRIAL BASE PLANNING ;
--OCC(36)     - OBJECTIVE CLASSIFICATION CODE:    UNCLASSIFIED
--OBJ(36.1)   - OBJECTIVE:  (U) THE PURPOSE OF THIS PROJECT WAS TO ENHANCE THE
--      ITEM SELECTION INDICATOR (ISI) MODEL AND ADAPT IT FOR USE ON SECTOR
--      STUDIES.
--APC(37)     - APPROACH CLASSIFICATION CODE:     UNCLASSIFIED
--APP(37.1)   - APPROACH:  (U) THE PROJECT RESULTS IN A SECTOR INDICATOR MODEL
--      WHICH BUILDS ON THE ISI MODEL.
--PGC(38)     - PROGRESS CLASS CODE:              UNCLASSIFIED
--PRG(38.1)   - PROGRESS:   (U) THE SSI PRIORITIZES INDUSTRIAL SECTORS FOR
--      FURTHER STUDY BASED ON AGGREGATE ISI VALUES, OPERATION DESERT STORM
--      DEMAND DATA, BACKORDERS, DEPTH OF VENDOR BASE, DEGREE OF FOREIGN
--      DEPENDENCE, AND A NUMBER OF OTHER CRITICAL FACTORS. THE MODEL CAN BE
--      USED TO PRIORITIZE FEDERAL SUPPLY CLASSES AT EACH DEFENSE LOGISTICS
--      AGENCY SUPPLY CENTER FOR IN-DEPTH ANALYSIS.
--PDN(39)     - PRODUCTS:
--PI(39.5)    - PRODUCT INDICATOR:      Y
--DTT(40)     - DOMESTIC TECHNOLOGY TRANSFER:   NO
--PD(46)      - PROCESSING DATE:        12 APR 93
--       <<P FOR NEXT PAGE>> OR <<ENTER NEXT COMMAND>>
--RCD(47)     - RECEIPT DATE:   12 APR 93
--DSC(48)     - DESCRIPTORS CLASS. CODE OVERALL:  UNCLASSIFIED
--DE(48.1)    - DESCRIPTORS:  (U)       AGGREGATES(MATERIALS) ;  DEPTH ;
--      FOREIGN ;  INDICATORS ;  INDUSTRIES ;  MODELS ;  PLANNING ;
--      SELECTION ;  SUPPLIES ;  UNITED STATES GOVERNMENT ;  VENDORS ;
```

INDEPENDENT RESEARCH AND DEVELOPMENT (IR&D) DATABASE

The Independent Research and Development (IR&D) database contains information on research and technology projects not wholly funded by the DoD. A project is the smallest segment into which independent research and development efforts are divided for company administration purposes, usually involving at least one work-year of effort. Because IR&D projects are funded in part by private contractors, the data must be treated as proprietary information. Online access to IR&D is currently limited to DoD users with classified terminal sites.

System functions in the IR&D Database are Search, Display, Recall, List, Sort, Qualify, Transfer and Order (Bibliographies only). All searches are performed basically the same way as in the Work Unit (WU) database. However, the accession date automatic default is two years. See Table 1. You will also need to substitute the field identification codes used for the IR&D Database (Appendix 3). To obtain accurate results, it is essential to use the appropriate appendix when using the IR&D database. The command to search the IR&D is **@SIR@**. The search concepts are the same as those used to search the WU file. The time default is the current two years unless the ALL option is used in the search strategy.

SEARCH WITH PREVIOUS STRATEGY

This function allows you to reprocess the same search question against another database without having to redisplay or retype the strategy. This can only be used when no modifications are made to the original search strategy. When going from **@SCF@** or **@SWU@** to **@STR@**, note that the automatic default to the most recent 10 years of TR accessions occurs. The commands are:

@SCFWPS@ - Search Current File with Previous Strategy

@STRWPS@ - Search Technical Report with Previous Strategy

@SWUWPS@ - Search Work Units with Previous Strategy

@SIRWPS@ - Search Independent Research with Previous Strategy

Role codes/mnemonics used in the original search strategy will automatically be converted to the corresponding role codes/mnemonics for the new database to be searched. If role codes/mnemonics in the previous search cannot be converted, they will be dropped from the search. The following four charts show the conversions when searching with previous strategies.

Role Code/Mnemonic Conversions

Technical Report/Current File to Work Unit

From: Tech Report/Current File		To: Work Unit	
Role Code	Field Description	Mnemonics	Field Description
?02	Source Code	SC	Performing Organization Source Code
?11	Author(s)	AU	Performing Organization Principle Investigator Name
?16	Contract Number	CT	Contract/Grant Number
?24	Report Date	RD	Date of Summary
?30	Geopolitical Code	GC	Performing Organization Location Geopolitical Code
?54	Fields & Groups	FG	DoD Subject Categories
?21	Primary Project Serial Number	PJ	Primary Project Serial Number
?00	Subject Terms	SUB	Subject Terms/Title
?60	Title Unclassified	TI	Title Unclassified
?55	Title Algorithm	TIA	Title Algorithm
?56	Title First 5 Words	TI5	Title First 5 Words
?57	Entry/Effort Classification	ECC	Effort Security Classification
?58	Report Classification	RCC	Record Classification

TABLE 11

Work Unit to Technical Report/Current File

From: Work Unit		To: Tech Report/Current File	
Mnemonics	Field Description	Role Code	Field Description
SC	Performing Organization Source Code	?02	Source Code
AU	Performing Organization Principle Investigator Name	?11	Author(s)
CT	Contract/Grant Number	?16	Contract Number
RD	Date of Summary	?24	Report Date
GC	Performing Organization Location Geopolitical Code	?30	Geopolitical Code
FG	DoD Subject Categories	?54	Fields & Groups
PJ	Primary Project Serial Number	?21	Primary Project Serial Number
TI	Title Unclassified	?60	Title Unclassified
TIA	Title Algorithm	?55	Title Algorithm
TI5	Title First 5 Words	?56	Title First 5 Words
ECC	Effort Security Classification	?57	Entry/Effort Classification
RCC	Record Classification	?58	Report Classification

TABLE 12

Technical Report/Current File to IR&D

From: Tech Report/Current File		To: IR&D	
Role Code	Field Description	Mnemonics	Field Description
?02	Source Code	SC	Performing Organization Source Code
?11	Author(s)	AU	Author Name
?24	Report Date	RD	Report Date
?30	Geopolitical Code	GC	Performing Organization State
?54	Fields & Groups	FG	Fields & Groups
?21	Primary Project Serial Number	PJ	Project Number
?00	Subject Terms	SUB	Subject Terms/Title
?60	Title Unclassified	TI	Title Unclassified
?55	Title Algorithm	TIA	Title Algorithm
?56	Title First 5 Words	TI5	Title First 5 Words
?57	Entry/Effort Classification	ECC	Effort Security Classification
?58	Report Classification	RCC	Record Classification

TABLE 13

Work Units to IR&D

From: Work Unit		To: IR&D	
Mnemonics	**Field Description**	**Mnemonics**	**Field Description**
AU	Performing Organization Principle Investigator Name	AU	Author Name
FG	Dod Subject Categories	FG	Fields & Groups
GC	Performing Organization Location Geopolitical Code	GC	Performing Organization State
NAR	Title, Progress, Approch, Objective	NAR	Title, Progress, Approch, Objective
PJ	Primary Project Serial Number	PJ	Project Number
RD	Date Of Summary	RD	Report Date
SC	Performing Organization Source Code	SC	Performing Organization Source Code
SUB	Subject Terms/Title	SUB	Subject Terms/Title
TI	Unclassified Title	TI	Unclassified Title
TI5	Title First 5 Words	TI5	Title First 5 Words
TIA	Title Algorithm	TIA	Title Algorithm
MC	Mission Area Code	MC	Mission Area Code
FC	Function Code	FC	Function Code
TE	Technology Code	TE	Technology Code
TT	Transaction Type	TT	Transaction Type
SDT	Start Date	SDT	Project Start Date
EDT	End Date	EDT	Estimated Completion Date
RCD	Receipt Date	RCD	Summary Receipt Date
FG1	DoD Subject Category1	FG1	DoD Subject Category1
MC1	Mission Area Code 1	MC1	Mission Area Code 1
FC1	Function Code 1	FC1	Function Code 1
TE1	Technical Category Code1	TE1	Technical Category Code1
PRG	Progress	PRG	Progress
APP	Approach	APP	Approach
OBJ	Objective	OBJ	Objective
RCD	Recipt Date	CRD	Record Creation Date
RIN	Responsible Organization Individual	FPT	Plan Focal Point Phone
ECC	Effort Security Classification Code	DSC	Project Sensitivity Code

TABLE 14

IR&D to Work Units

From: IR&D		To: Work Unit	
Mnemonics	**Field Description**	**Mnemonics**	**Field Description**
AU	Author Name	AU	Performing Organization Principle Investigator Name
FG	Fields & Groups	FG	Dod Subject Categories
GC	Performing Organization State	GC	Performing Organization Location Geopolitical Code
NAR	Title, Progress, Approch, Objective	NAR	Title, Progress, Approch, Objective
PJ	Project Number	PJ	Primary Project Serial Number
RD	Report Date	RD	Date Of Summary
SC	Performing Organization Source Code	SC	Performing Organization Source Code
SUB	Subject Terms/Title	SUB	Subject Terms/Title
TI	Unclassified Title	TI	Unclassified Title
TI5	Title First 5 Words	TI5	Title First 5 Words
TIA	Title Algorithm	TIA	Title Algorithm
MC	Mission Area Code	MC	Mission Area Code
FC	Function Code	FC	Function Code
TE	Technology Code	TE	Technology Code
TT	Transaction Type	TT	Transaction Type
SDT	Project Start Date	SDT	Start Date
EDT	Estimated Completion Date	EDT	End Date
RCD	Summary Receipt Date	RCD	Receipt Date
FG1	DoD Subject Category1	FG1	DoD Subject Category1
MC1	Mission Area Code 1	MC1	Mission Area Code 1
FC1	Function Code 1	FC1	Function Code 1
TE1	Technical Category Code1	TE1	Technical Category Code1
PRG	Progress	PRG	Progress
APP	Approach	APP	Approach
OBJ	Objective	OBJ	Objective
CRD	Record Creation Date	RCD	Recipt Date
FPT	Plan Focal Point Phone	RIN	Responsible Organization Individual
DSC	Project Sensitivity Code	ECC	Effort Security Classification Code

TABLE 15

IR&D to Technical Report/Current File

From: IR&D		To: Tech Report/Current File	
Mnemonics	Field Description	Role Code	Field Description
SC	Performing Organization Source Code	?02	Source Code
AU	Author Name	?11	Author(s)
RD	Report Date	?24	Report Date
GC	Performing Organization State	?30	Geopolitical Code
FG	Fields & Groups	?54	Fields & Groups
PJ	Project Number	?21	Primary Project Serial Number
SUB	Subject Terms/Title	?00	Subject Terms
TI	Title Unclassified	?60	Title Unclassified
TIA	Title Algorithm	?55	Title Algorithm
TI5	Title First 5 Words	?56	Title First 5 Words
ECC	Effort Security Classification	?57	Entry/Effort Classification
RCC	Record Classification	?58	Report Classification

TABLE 16

STORE SEARCH

This procedure will allow you to store, display, list, delete, and execute indefinitely up to 10 searches per terminal. To store a search just executed, enter the command **@SS@**, the name of the search you want to store, and END. The name of the search is limited to 6 alphanumeric characters. An example follows:

Example: @ss@
super1
end

To store a search before executing it, enter the command followed by the search name, then type on the next line the 2 alpha characters specifying the file the stored search is to be run against. Valid file entries are:

TR - Technical Report
CF - Current File
WU - Work Unit
IR - Independent Research & Development
NA - New Accessions in TR file from latest update

An example follows:

Example: @ss@
super1
tr
Place search strategy here.
end

The END terminator is not required for the remaining commands used with the Store Search capability. They are as follows:

@LSS@ - List Stored Searches

@DSS@ - Display Stored Search-(by stored name)
xxxxxx

@XSS@ - Execute Stored Search-(by stored name)
xxxxxx

@DELSS@ - Delete Stored Search-(by stored name).
xxxxxx

It is also possible to overlay a stored search by storing another search under the same name. When overlaying you will be alerted that by so doing, your previous search stored under that name will be destroyed.

OTHER SEARCH COMMANDS

CHAPTER 3 - DISPLAY

Display commands are used for various purposes. Some are administrative such as displaying the information log, the available files, the order log, the security log, and various warning notices. Other commands pertain to searching or viewing the search results. It is not necessary to conclude certain display commands with **END**. Examples of each display command will indicate when it is necessary to use **END**.

@DIL@ - DISPLAY INFORMATION LOG

The most effective way of determining the system's status is through the terminal. The terminal provides an online "newsletter" called the Information Log. It is a good idea to look at the Information Log before you begin using the system each day.

To view the Information Log, type the command **@DIL@** and transmit. The system will respond with a display similar to the following:

```
-ATTENTION      *** INFORMATION LOG ***      ATTENTION
-
-       WEEK OF MAR 29 THRU APR 02 1993
-
-TR DIRECT AND INVERTED FILES LOADED FOR 93-11 ON MAR 26 93
-RANGES FOR INPUT CYCLE 93-11 ARE      A260 560 - A261 214
-RANGES FOR INPUT CYCLE 93-11 ARE      B170 543 - B171 075
-RANGES FOR INPUT CYCLE 93-11 ARE      C050 233 - C050 284
-RANGES FOR INPUT CYCLE 93-11 ARE      D015 652 - D015 659
-RANGES FOR INPUT CYCLE 93-11 ARE      M000 188 - M000 188
-RANGES FOR INPUT CYCLE 93-11 ARE      M200 140 - M200 140
-RANGES FOR INPUT CYCLE 93-11 ARE      M200 144 - M200 145
-THE IAC, SBIR, AND UNANNOUNCED RANGES ARE NOT LISTED
-DUE TO THE MULTITUDE OF GAPS WITHIN THE RANGES.
-
-01 MAR 93     ATTENTION      ATTENTION
-
-TWO COURSES ARE BEING OFFERED BY THE TACTICAL WEAPONS
-GUIDANCE AND CONTROL INFORMATION ANALYSIS CENTER (GACIAC),
-SMART WEAPONS SYSTEMS CURRENT AND FUTURE IS BEING OFFERED ON
-23 - 25 MARCH AT THE IIT RESEARCH INSTITUTE IN LANHAM,
-MARYLAND AND ON 20 -22 APRIL AT IIT RESEARCH INSTITUTE IN
-    <<TRANSMIT FOR NEXT PAGE OR ENTER NEXT COMMAND>>
```

Remember, this log is one way that DTIC can communicate notices of important changes in online operational procedures or changes in the time the online system will be available to the user. Check your Information Log each day.

@DAF@ - DISPLAY AVAILABLE FILES

The display of available files tells you which databases are available for use and the date on which those files were updated. Type the command **@DAF@** and transmit. The system will respond with a display similar to:

```
-                    AVAILABLE FILES

-TECHNICAL REPORTS FILE              AVAILABLE
-WORK UNIT INFORMATION FILE          AVAILABLE
-CURRENT TECHNICAL REPORTS FILE      APR 01,1993
-NLDB HIERARCHY FILE                 AVAILABLE
-SOURCE HIERARCHY FILE               AVAILABLE
-REMOTE TERMINAL INPUT FILE          AVAILABLE
-ORDER LOG                           APR 01,1993
-COMPOSITE INVERTED FILE             AVAILABLE

-END              << ENTER NEXT COMMAND >>              END -
```

NOTE: NLDB, Natural Language Database (Online Thesaurus).

@DOL@ - DISPLAY ORDER LOG

You may wish to review the orders placed on the preceding two business days. To display the order log type **@DOL@** and transmit. The system will respond with a display similar to the following:

```
-                          ORDER LOG

- TERM    USER     DATE     DATA     NUM OF    NUM IN    SEARCH
-  ID.    CODE    PROC'D    BASE     ITEMS     RANGE     CTL NO.

-AANL     04741   033193     TR         1               AAP47L
-AARAD    00304   033193     TR         1               EAP10N
-AARL   * 12485   040193     TR         9               XIJ25K
-AARL   * 12485   040193     TR         9               XIJ25N
-ACGS5    25775   033193     TR         1               WPM19I
-ACGS5    25776   033193     TR         4               WPM23K
-ACGS5    25776   033193     TR         3               WPM28K
-ACSL     00298   033193     TR        84               FFM39I
-ACSL   * 00298   040193     TR         9               FFP31J
-ACSL   * 00298   040193     TR         1               FFP32M
-ACSL     00298   033193   WUIS        42               FFM42I
-ACSL2  * 00298   040193     TR        94        48D    ZWO50I
-AFIT     25304   033193     TR         2               DKM56L
-AFIT     25316   033193     TR         1               DKM58J
-AFIT     25316   033193     TR         1               DKM59L
-AFIT     25316   033193     TR         1               DKN01J
-AFIT     25304   033193     TR       192               DKN11K
-    <<TRANSMIT FOR NEXT PAGE OR ENTER NEXT COMMAND>>
```

*NOTE: C - Indicates a contract number error, U - Indicates a user code error, * - Indicates a change in date ordered. Not all errors appear on the order log (i.e., errors in deposit account numbers).*

Orders for which the User Code is preceded by a C or U error indicator were not accepted and can not be corrected. The orders must be re-entered correctly.

If no orders were placed on the previous 2 work days the following will be displayed:

```
-YOUR SITE SHOWS NO ORDERS FOR PREVIOUS DAY.
```

Site operators may wish to print the order log each day for their own records.

@DIF@ - DISPLAY INVERTED FILE

If you cannot find a term in the DTIC Thesaurus, display the Inverted File. For example, if you were looking for reports indexed on RADAR ANGELS, you would not find this term in the Thesaurus. Use the following command to see if it is used as an indexed term.

Example: @dif@
radar angels

The system will respond with a display similar to the following:

```
- SUBJECT TERM  (D - DESCRIPTOR, I - IAC TERM)   TR WUIS
-RADAR AND COMMUNICATION TECHNOLOGY  .....          X
-RADAR AND COMMUNICATIONS.....                      X
-RADAR AND MISSILE SYSTEMS COST DATA BASES .....    X
-RADAR AND OPTICAL DATA  .....                      X
-RADAR AND PENETRATOR COMBINATION    .....          X
-RADAR AND RADIO FOR ANTIAIRCRAFT SYSTEMS  .....    X
-RADAR AND RADIO FOR ANTICRAFT SYSTEMS     .....    X
-RADAR AND RADIO RAY DIAGRAMS  .....                X
-RADAR AND RADIO TARGET DETECTION    .....          X
-RADAR AND SFERICS SYSTEM..... X
-RADAR ANECHOIC CHAMBERS ..... X
-RADAR ANGELS..... X
-RADAR ANGELS-G   .....  I
-RADAR ANGLE CALIBRATORS ..... X
-RADAR ANGLE TRACKING    .....                      X
-RADAR ANGLES..... X
-RADAR ANTENNA     ..... X                          X
-RADAR ANTENNA ANALYSIS  .....                      X
-RADAR ANTENNA PATHS     .....                      X
-RADAR ANTENNA PEDESTAL  .....  .....               X
-RADAR ANTENNA SIDELOBE  .....                      X
-     <<P TO SCROLL FORWARD>> OR <<B TO SCROLL BACKWARD>>
```

A total of 21 terms per screen will be displayed in alphabetical sequence, including the 10 terms before and the 10 terms following the term being searched. Along with the display of terms, the right side of the screen will indicate with Xs whether terms have been indexed in the TR or WU database. The D indicates the term is in the Thesaurus. The I indicates that the term has been used by an IAC; the term's suffix indicates which IAC used the term (i.e., RADAR ANGELS--G was used by the Guidance and Control IAC - GACIAC).

On the bottom of the screen, you have the option of entering **B** if you want a display of the previous screen, or **P** if you want the next screen of terms. Enter any other command to exit the function.

If you transmit the **@DIF@** command without a term, the computer will respond with:

```
--PLEASE REENTER COMMAND AND TERM
```

@DSR@ - DISPLAY SEARCH RESULTS

This generic command enables you to display the records of items retrieved by your search. It is used the same way in all of the databases. Along with the display command, you must include a display format. There are six standard display formats available for the TR file, six for the WU file and only one for the CF file. Each format includes different fields. You may also create your own display format by entering the display field codes, one per line. A maximum of 21 display field codes may be used. These fields can be displayed in any order (Field 1, Accession Number, is automatically displayed). Refer to Appendix 4 for the display field codes and formats.

Examples:

Technical Report			*Work Unit*
@dsr@		@dsr@	@dsr@
1f	or	5	sc
end		6	ti
y		10	au
		11	rd
		end	end
		y	y

NOTE: When you construct a display command, the system allows you to specify a display mode subcommand on the line following the terminator END. If the mode subcommand is omitted, this message will appear:

```
--ENTER ONE OF THE MODE SUBCOMMANDS Y, C, W OR X
```

MODE SUBCOMMANDS

Y - Will display records one screen at a time in your choice of display format. By pressing Y again, you advance to the next item. You may skip forward a specified number of accessions by entering Y+N (where N is the number of accessions you wish tc skip). You may also move backward by entering Y-N.

Example: @dsr@
2f
end
y+3

C - Will display all of the information specified in your display format on a continuous basis. This display will consist of 23 lines of information followed by a pause, then 23 more lines, etc. This option can be aborted by depressing the BREAK or CANCEL key on your keyboard. For Dial-up users the BREAK or CANCEL keys may vary depending on the telecommunications software.

To view up to three specific items continuously in a chosen format, enter the three numbers in ascending sequence, separated by commas, and followed by the mode subcommand C.

Example: @dsr@
2f
end
1,5,9c

Items 1, 5, and 9 will be displayed after which the following message will appear:

```
--END Y FOR NEXT ACCESSION END--
```

To view a specific range of items, specify the range separated by a hyphen, in ascending order.

Examples:	@dsr@		@dsr@
	2f	or	2f
	end		end
	1-5c		3-8c
	(Display of items		*(Display of items*
	1 to 5 continuously)		*3 to 8 continuously)*

To scan through the display, you can use the skip/limiting feature, where the skip factor can be 1-99 and the limiting factor (total number of citations to be displayed) can be 1-999. The following strategy will give a display of every third item until five have been displayed continuously.

Example: @dsr@
2f
end
3/5c

W - Will allow Dedicated sites to display and print all of the citations continuously. You can also display/print up to 3 items, a range of items, or a scan of items as discussed under the mode subcommand C. This option is not available for Dial-up users. However, all users can print a screen at a time using the Print Screen key.

X - Will allow continuous display while downloading the information to a floppy or hard disk, if so configured. Users should refer to their communications software manual for downloading procedures.

NOTE: Security measures for protecting classified information displayed on the computer screen are a user responsibility. All documents containing classified information must be safeguarded in accordance with the provisions of DoD 5200.1-R, Information Security Program Regulation, and DoD 5220.22M, Industrial Security Manual for Safeguarding Classified Information.

Other mode subcommands are:

- **P** - Paging - will advance screen by one additional page.
- **B** - Browse/Backward - will scroll the screen backward by one page. Use with **@DIF@** command only.
- **Y** - Yes response to computer
- **N** - No response to computer
- **END** - Terminator - lets the system know your command is completed. Must be followed on next line by mode subcommand (**Y**, **C**, **W**, or **X**) when using the display command.

After entering the display command, enter the specified display/print field identification codes that you want to see. These field identification codes may be obtained from Appendix 3. Terminate with END and a mode subcommand. This format will display the fields cited but not empty fields. If you need to see the field, even if it is empty, include the word ALL after the display command. Enter one field identification codes per line for a maximum of 21 fields.

Examples:

Inclusion		*Exclusion*
@dsr@	or	@dsr@
all		11
11		14
14		end
end		y
y		

SYSTEM MESSAGES DURING DISPLAY OF ACCESSIONED RECORDS

Occasionally, an accession cannot be displayed at your site. The system will alert you with the message "Unavailable for Display' along with the reason. Reasons for unavailability include:

Field/Group doesn't match your registration
Classification doesn't match your registration
Distribution Limitation doesn't match your registration
Unannounceable Category
Intelligence Category
Database Error
Site Ineligible for Data

SECURE SITE DISPLAY OPTIONS

Secure online terminals may display unclassified versions of classified technical report citations by using **ENDU** in place of END. ENDU will work with technical report citations only. Your display command will be:

Example:
```
@dsr@
2f
endu
y
```

To include or exclude Restricted Data and/or Formerly Restricted reports in your display, enter the following codes on the line prior to the desired format in the display commands.

RD - Restricted Data Only
FRD - Formerly Restricted Data Only
RFD - Restricted and/or Formerly Restricted Data Only
NORD - No Restricted Data
NOFRD - No Formerly Restricted Data
NORFD - No Restricted and/or Formerly Restricted Data

Your display command will be:

Examples:	*Inclusion*		*Exclusion*
	@dsr@		@dsr@
	rd	or	nord
	4f		(all)
	end		4f
	y		end
			y

REPEAT DISPLAY FORMAT

Once you have established a display format, it is not necessary to retype it after each additional search. The computer will retain the same display format until you type a new one or change databases. This is especially convenient when using a customized display with several specific fields.

To use this feature type your initial search followed by your initial display command. After your next search, instead of typing the entire display format again, type **@DSR@**, END, and the mode subcommand. The system will display using the previous format.

Examples	*Initial Display Command*		*Additional Display Command*
	@dsr@	or	@dsr@
	5		end
	6		y
	14		
	18		
	19		
	20		
	end		
	y		

NOTE: The system will retain any of the display formats you use. However, if you perform a search in another database or logoff between searches it will cancel your initial display format.

@DQR@ - DISPLAY QUALIFIED RESULTS

This command is used to display the results of a qualification, a method of refining your search (see Chapter 6). The procedures to display are the same as those used with the **@DSR@** command.

DISPLAY OF KNOWN ACCESSION NUMBER

This option is used when an accession number is already known. Only one TR, WU, or IR&D accession number can be displayed at a time with these commands. You must enter the display command, accession number, display format, and mode subcommand. Refer to Appendix 4 for applicable display formats. The commands are:

@DTR@ - DISPLAY TECHNICAL REPORT

@DCF@ - DISPLAY CURRENT FILE

@DWU@ - DISPLAY WORK UNIT

@DIR@ - DISPLAY INDEPENDENT RESEARCH & DEVELOPMENT

Examples:	@dtr@	@dcf@	@dwu@	@dir@
	ada110123	ada123321	dn923186	90123456
	1f	1f	1f	1f
	end	end	end	end
	w	w	w	w

@DUF@ - DISPLAY USER FILE

After you have built and closed a user file (see Chapter 4) from either search results, direct entry or qualified results, you can display it. You may use a standard display format or design your own. You can display only one user file at a time. If you want to display your user file of technical reports by author, title, and report date, your format would look like:

Example:
```
@duf@
10
6
14
end
c
```

@DSL@ - DISPLAY SECURITY LOG (SECURE SITES)

The daily security log must be printed before terminating a secure site. This log tells you how many of the items displayed were from citations/summaries that are classified. Specific accession numbers are listed along with the time, classification, and search control number. In accordance with current security regulations, if any

portion of a citation/summary that is classified secret is printed, you must record it on the manual security log by entering either the accession number or the search control number **SCN**. Use the **@DSL@** command with the W subcommand to automatically print the log plus additional pages. If you are unable to print the security log, call DASC-IO, ADP Security (703) 274-4684 to send you a log. Your command will look like:

Example: @dsl@
w

The system will respond with a display similar to the following:

```
-TNG2    SUMMARY OF CLASSIFIED DISPLAYS    020493    142906

          TOTAL    WUIS    TR    PS    RD
-SECRET     3        0      3     0     0
-CONFIDENTIAL 3      0      3     0     0
-RESTRICTED  0       0      0     0     0
-OTHER       0       0      0     0     0
-TOTAL       6       0      6     0     0
-
-TNG2          CLASSIFIED DISPLAYS   020493    142906
-ACCESSION    USER CODE   TIME      CL      SCN
-ADD500000    025000      095454    S       CXN25B
-ADD500001    025000      095455    C
-ADD500002    025000      095457    C
-ADD500003    025000      095510    C       CXP15J
-ADD500004    025000      095511    S       CXP15J
-ADD500005    025000      095511    S       CXP15J

-END       ENTER NEXT COMMAND        END-
```

@COMMNT@ - TRANSMIT A COMMENT

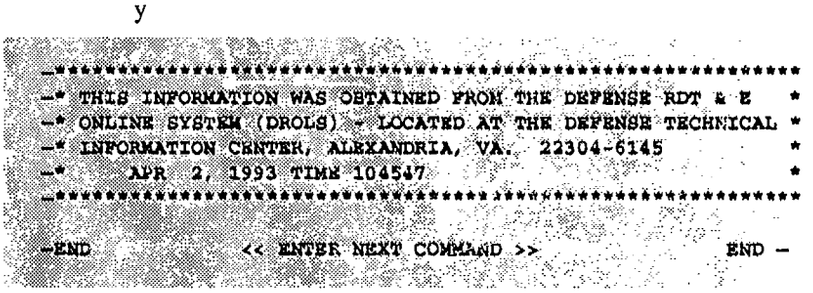
At times a user may wish to transmit comments or questions to DTIC. One screen of information (23 lines) can be entered at a time. Use a carriage return at the end of each line entered. No deletions or changes can be made once the comment has been transmitted. Be sure to include your name and telephone number. The comments are transmitted to the Network Services Branch the following business day for action. Their response will usually be by phone, with a follow-up by mail or phone as needed. To send DTIC a message, enter the comment command, your message, END and transmit.

Example: @commnt@
Author "Ting" on ada170546 should have a
middle initial of Y instead of W.
The author "Thornston" of ada201981
should be "Thornton".
Dolores Pieper, DTIC-BLNL - 10/18/92
end

@BANNER@ - DISPLAY BANNER

Some organizations use multiple computer systems to retrieve information. This command will enable organizations to identify DROLS as the source of retrieved results. A display mode subcommand needs to be specified (Y, W, or X) after the command. The command and display will be:

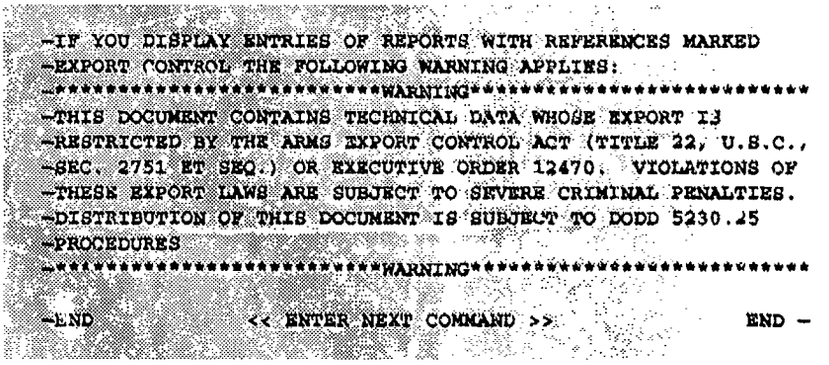
Example: @banner@
y



@DITAR@ - DISPLAY EXPORT-CONTROL INTERNATIONAL TRAFFIC-IN-ARMS STATEMENT REGULATION

This option will display the *Export Control International Traffic-in-Arms Regulation (ITAR)* statement. It may be useful for inclusion in a bibliography to be printed at your terminal. You will have to perform a Screen Print in order to print this message at your site. The command and display will be:

Example: @ditar@



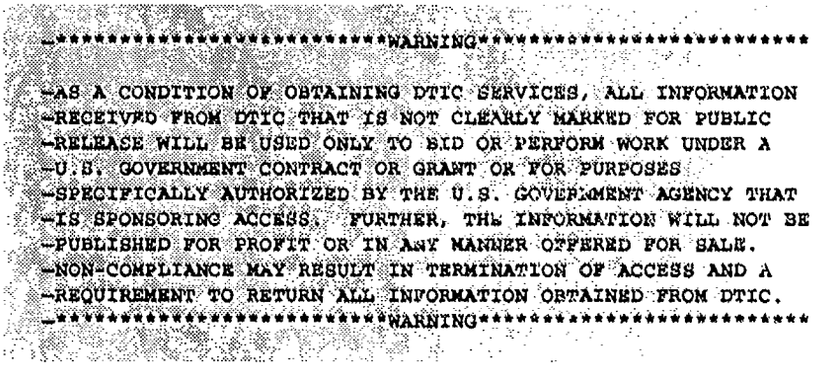
```
-IF YOU DISPLAY ENTRIES OF REPORTS WITH REFERENCES MARKED
-EXPORT CONTROL THE FOLLOWING WARNING APPLIES:
-*****************************WARNING*****************************
-THIS DOCUMENT CONTAINS TECHNICAL DATA WHOSE EXPORT IS
-RESTRICTED BY THE ARMS EXPORT CONTROL ACT (TITLE 22, U.S.C.,
-SEC. 2751 ET SEQ.) OR EXECUTIVE ORDER 12470.  VIOLATIONS OF
-THESE EXPORT LAWS ARE SUBJECT TO SEVERE CRIMINAL PENALTIES.
-DISTRIBUTION OF THIS DOCUMENT IS SUBJECT TO DODD 5230.25
-PROCEDURES
-*****************************WARNING*****************************

-END          << ENTER NEXT COMMAND >>          END -
```

@NOSALE@ - DISPLAY NOSALE STATEMENT

This is a caution statement which appears when you sign on the DROLS system. It is also available for display on command for inclusion in a bibliography or other information retrieved from your terminal. You will have to perform a Screen Print in order to print this message at your site. The command and display appears as:

Example: @nosale@



```
-*****************************WARNING*****************************

-AS A CONDITION OF OBTAINING DTIC SERVICES, ALL INFORMATION
-RECEIVED FROM DTIC THAT IS NOT CLEARLY MARKED FOR PUBLIC
-RELEASE WILL BE USED ONLY TO BID OR PERFORM WORK UNDER A
-U.S. GOVERNMENT CONTRACT OR GRANT OR FOR PURPOSES
-SPECIFICALLY AUTHORIZED BY THE U.S. GOVERNMENT AGENCY THAT
-IS SPONSORING ACCESS.  FURTHER, THE INFORMATION WILL NOT BE
-PUBLISHED FOR PROFIT OR IN ANY MANNER OFFERED FOR SALE.
-NON-COMPLIANCE MAY RESULT IN TERMINATION OF ACCESS AND A
-REQUIREMENT TO RETURN ALL INFORMATION OBTAINED FROM DTIC.
-*****************************WARNING*****************************
```

WORK UNIT AUTOMATICALLY EXPANDING DISPLAYS

The following display mnemonics automatically display all of their related fields.

Example: @dsr@
xx *(display mnemonic)*
end

The mnemonic FC will display the following fields:

FC - Function Code
FC1 - Function Code 1
FC2 - Function Code 2
FC3 - Function Code 3

The mnemonic FG will display the following fields:

FG - DoD Subject Categories
FG1 - DoD Subject Categories 1
FG2 - DoD Subject Categories 2
FG3 - DoD Subject Categories 3

The mnemonic MC will display the following fields:

MC - Mission Area Code
MC1 - Mission Area Code 1
MC2 - Mission Area Code 2
MC3 - Mission Area Code 3

The mnemonic TE will display the following fields:

TE - Technology Code
TE1 - Technology Code 1
TE2 - Technology Code 2
TE3 - Technology Code 3

The mnemonic TAC will display the following fields:

FC - Function Code (FC, FC1, FC2, FC3)
MC - Mission Area Code (MC, MC1, MC2, MC3)
TE - Technology Code (TE, TE1, TE2, TE3)

The mnemonic THR will display the following fields:

THR - Thrust Indicator
TH1 - Thrust Indicator 1

The mnemonic RA will display the following fields:

AN - Agency Accession Number
RIN - Responsible Individual Name
RIO - Responsible Individual Office Symbol
RAN - Responsible Organization Activity Name
RLC - Responsible Organization Location - City
RLS - Responsible Organization Location - State/Country
RLZ - Responsible Organization Location - Zip Code
RLG - Responsible organization Location - Geopolitical Code

The mnemonic PA will display the following related fields:

AN - Agency Accession number
AU - Performing Organization Principal Investigator Name
PIO - Performing Organization Principal Investigator Office Symbol/Code
POA - Performing Organization Activity Name
PLC - Performing Organization Location - City
SCC - Performing Organization Location - State/Country
PLZ - Performing Organization Location - Zip Code
GC - Performing Organization Location - Geopolitical Code
OT - Performing Organization - Type Code
ENT - Entity Code (Data not yet available)

CHAPTER 4 - TRANSFER (USER FILE)

Transfer commands allow you to build a user file with multiple search results or selected accessions (or accession ranges). Using these commands, the terminal operator may transfer a single accession number, a range of numbers, the search results, and/or the qualification results.

Until the user file is closed, you may continue to add items from a single database up to the 25,000 limit. If you create a user file with AD numbers from the TR Database, you may not add accessions from the WU Database, etc. You may have only one user file at a time.

The user file may serve as a running record of accessions which can be accumulated periodically. Accessions can be transferred until the user file is closed, you wish to change databases, you log off the system, or the system terminates. Once the user file is closed, bibliographies or full text copies of the user file accessions may be ordered. If you attempt to transfer additional accessions to a closed user file, the existing user file will be deleted and a new user file will be created.

@TA@ - TRANSFER ACCESSION

You can build a user file by direct entry of known accession numbers or a list of accessions from search results, one per line; and/or by entering a range of accession numbers in parentheses. The number ranges must be in ascending order using only accessions from one database separated by one hyphen. You may enter no more than two ranges.

Example:
```
@ta@
ad774653
ad774575
ad765562
(adb001900-adb002000)
end
```

NOTE: This command is used when you want to order reports if you know the AD number(s) and have not done a search.

Each time you transfer accessions to the user file, the system will respond with the message saying "TO CLOSE USER FILE, TYPE END." Until you are ready to close the user file you should simply ignore this message. You may continue building the user file by executing the **@TA@** command. Once you have closed the user file, any subsequent transfer commands will automatically start a new user file and wipe out the previous one. Once you close the user file you cannot reopen it, but you can work with it in the same manner you work with the Direct File. Thus, you may list, display, qualify, sort, and order the user file. You cannot delete records once they have been entered into a user file.

@TASR@ - TRANSFER ALL SEARCH RESULTS

This command will transfer your latest search finds into your user file.

Example: @tasr@
end

System response:

```
-ENTIRE CONTENTS OF SEARCH FILE HAVE BEEN MOVED TO
-USER FILE. TO CLOSE USER FILE TYPE IN END
```

Until you are ready to close the user file, ignore the request to type in END. When the file is closed, the computer will respond by telling you the file is closed and how many items are contained in the file.

@TRSR@ - TRANSFER RANGE FROM SEARCH RESULTS

This command transfers only a specified range of accession numbers from the latest search results to the user file.

Example: **@trsr@**
(ada000001-ada099999)
end

System response:

```
-TO CLOSE USER FILE TYPE IN END-
```

Ignore this response until you are ready to close the file.

NOTE: Only two ranges can be specified per command.

@TAQR@ - TRANSFER ALL QUALIFIED RESULTS

This is used to transfer all the latest qualified results to a user file. It combines the qualification results into a single file.

Example: **@taqr@**
end

System response:

```
--ENTIRE CONTENTS OF QUALIFICATION FILE HAVE BEEN MOVED
--TO USER FILE. TO CLOSE USER FILE TYPE IN END
```

@TRQR@ - TRANSFER RANGE FROM QUALIFIED RESULTS

This is used to build a user file with a specified range from your qualified results. It combines the qualification results into a single file.

Example: **@TRQR@**
(ada000001-ada999999)
end

System response:

```
-TO CLOSE USER FILE TYPE IN END.
```

Ignore this response until you are ready to close the file.

NOTE: Only two ranges can be specified per command.

Other commands used with the user file are:

CHAPTER 5 - SORT

Sorting rearranges the results of your search using the sortable data fields you specify in ascending AEND or descending DEND sequence. It also eliminates duplicates and non-displayable items. For sorting purposes, these two choices replace END. Sorting can be done in the TR, CF, WU, and IR&D databases. Each sort field must occupy one screen line. A maximum of three sort fields may be specified. Sorting is on the first 12 characters only, including punctuation, in whatever format has been entered.

@SOSR@ - SORT SEARCH RESULTS

Appendix 3 lists the fields you may sort on. Enter one sort field per line (maximum of 3 lines). For example, to sort your results by personal author, the strategy would be:

Examples:	*TR File*	*Current File*	*Work Unit File*
	@sosr@	@sosr@	@sosr@
	10	10	au
	aend	aend	aend

A status message will appear after every 100 items processed. The message will be:

```
-SORT IN PROCESS
-ITEMS PROCESSED:  100
```

At the end of the sort, you will receive a response similar to:

```
          SORT STATISTICS

ITEMS SORTED          144

ITEMS FAILED

EXCEEDED VOLUME RESTRICTION          47

AGENCY FIELD OF INTEREST REGISTER    0

-END  ENTER NEXT COMMAND    END-
```

There are processing limitations associated with the sort function. For a single field sort a maximum of 4400 items may be sorted. If two fields are specified, the number of items that may be sorted drops to 2900. With three sort fields, only 2200 items may be sorted. Any items that exceed these limits will be dropped in the sort operation.

Sorting can be very time-consuming. If you find that a sort is taking too long, you may abort it by depressing the BREAK key or equivalent on your keyboard. Wait for the response:

```
COMMAND HAS BEEN ABORTED
```

The sort function applies to online display only. Sorting search results, qualification results, or the contents of a user file prior to ordering it will not impact the standard sequence in which citations are printed offline. After sorting use either a standard or customized display format to view the search results. The other sort commands are as follows:

@SOQR@ - SORT QUALIFIED RESULTS

This command is used to sort qualification results. The procedures are the same as the **@SOSR@** command.

Example:
```
@soqr@
10
aend
```

@SOUF@ - SORT USER FILE

This command is used to sort the contents of the user file. The procedures are the same as the **@SOSR@** command.

Example:
```
@souf@
10
dend
```

CHAPTER 6 - QUALIFY

Once you have completed a search or built a user file, you can further refine your results by a process known as Qualification. Essentially a comparison process, Qualification can be done on specified fields including text fields. To qualify against specific fields, use a qualification command, enter one or more qualification statements separated by using Boolean connectors and the terminator END. DROLS will not permit qualification of more than 500 items if the qualifying field is also a searchable field. For these cases, you will have to modify your search strategy and include the field and parameters there. The Qualification commands are:

@QSR@ - QUALIFY SEARCH RESULTS

This command is used to further refine the results of the last search by comparing values in certain fields.

The qualification statement consists of a specific data field to be qualified, a space, a two-letter comparison symbol, a space, and the data to be compared. Spacing must be exact. Qualification refinement is limited to one screen of information (23 lines) and includes the command, statement(s) with boolean connectors, and terminator.

The two letter comparison symbols are:

EQ - Equal
NE - Not Equal To
LT - Less Than
LE - Less Than or Equal To
GT - Greater Than
GE - Greater Than or Equal To

Qualification by field number is a similar process across all the databases with specific qualifiable fields shown in Appendix 3. Qualification against TR accessions is limited to three fields: Report Date, Distribution Limitation Code, and Organization Type Code. The WU and the IR&D databases have many qualification fields.

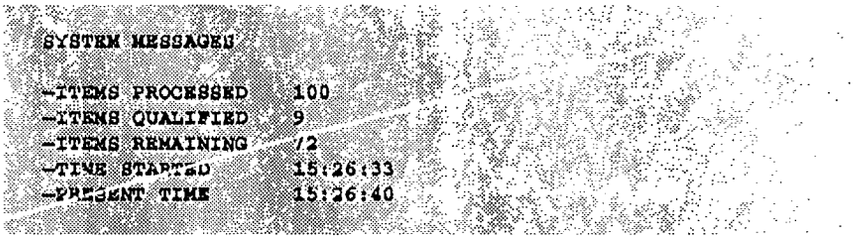
Suppose you searched the TR database for all reports written by J.R. Brown and found 109 reports, but then decided that you were only interested in the reports he wrote from 1978-1984. These could be found by qualifying your search results in terms of the report date. You would translate the dates into the year-month-day (YYMMDD,

YYMM, or YY) format required by the system (i.e. 780000 and 841231), and use the Greater Than or Equal To (GE) and Less Than or Equal To (LE) symbols. The command to qualify the search results looks like this:

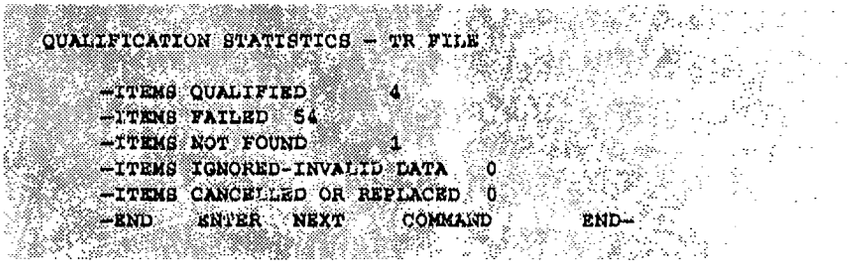
Example: @qsr@
11 ge 78
and
11 le 841231
end

A status message will appear for every 100 items processed.

System message will be similar to this:



At the completion, the system responds with a page of qualification statistics.



Items Qualified are those citations meeting the qualification requirements. Items Failed are citations not meeting the qualification requirements and items with no data in the qualifying field. Items Not Found are citations not available online. Items Cancelled or Replaced are citations that have been cancelled or replaced by a later citation.

To interrupt a qualification, depress the BREAK key or the equivalent on your keyboard. Statistics will be displayed for an incomplete qualification.

@QUF@ - QUALIFY USER FILE

This command is used to further refine the accessions transferred into a user file. Suppose you want to locate all citations in your user file which were originated by a commercial organization. Remember TRs may be qualified only on three fields; organization type, report date, and distribution limitation. Your strategy would look like this:

Example: @quf@
41 eq 4
end

FREE TEXT QUALIFICATION

After you have performed a search or built a user file, you can ask the online system to scan the title and/or abstract fields for a specific word or phrase. The free text qualification capability reads each title and or abstract for each record in the qualifying file and looks for any word, phrase, or alphanumeric combination that you want.

QUALIFICATION OF SEARCH RESULTS

There are three commands that you can use to perform a free text qualification against the search results. The commands are:

@QSRTI@ - QUALIFY SEARCH RESULTS BY TITLE

@QSRAB@ - QUALIFY SEARCH RESULTS BY ABSTRACT

@QSRTAB@ - QUALIFY SEARCH RESULTS BY TITLE AND ABSTRACT

QUALIFICATION OF USER FILE

The free text capability can also be used in qualifying the user file. The commands are:

@QUFTI@ - QUALIFY USER FILE BY TITLE

@QUFAB@ - QUALIFY USER FILE BY ABSTRACT

@QUFTAB@ - QUALIFY USER FILE BY TITLE AND ABSTRACT

There are seven rules applicable to free text qualifications.

1. Terms are limited to 60 characters (including spaces).
2. Allowable characters are letters of the alphabet, space, hyphen, and numbers.
3. All other punctuation is eliminated and packed.
4. Maximum of 15 lines may be entered per command.
5. Search options (**%, $, *, ?**) cannot be used.
6. Boolean logic (and, not) may be used.
7. Stop Word List is not used.

Suppose you are interested in reports about BEAGLES OR GERMAN SHEPHERD DOGS.

Perform this search:

Example: @str@
(all)
dogs
end

The search will result in approximately 2500 finds.

Now perform a free text qualification on titles and abstracts for the words BEAGLE, BEAGLES, GERMAN SHEPHERD, or GERMAN SHEPHERDS.

Example: @qsrtab@
beagle
beagles
german shepherd
german shepherds
end

FREE TEXT QUALIFICATION STATISTICS

During the execution of the free text qualification, a periodic display is generated, at 100-item intervals, showing the number of items processed, the number of items passed, the number of items remaining, and the time. The screen will be similar to:

```
FREE TEXT QUALIFICATION IN PROGRESS
-        100     ITEMS PROCESSED
-         11     ITEMS PASSED
-       1779     ITEMS REMAINING
-   14:57:43       TIME STARTED
-   14:58:00       PRESENT TIME
```

When the process is completed, the final statistics will be displayed. Results will be similar to the following:

```
FREE TEXT QUALIFICATION COMPLETED
-1879          ITEMS COMPLETED
-91            ITEMS PASSED
-0             ITEMS REMAINING
-14:57:43      TIME STARTED
-15:02:23      PRESENT TIME
-END           ENTER NEXT COMMAND     END-
```

Compare the statistics of the Inverted File search with those of the free text qualification.

To interrupt a text qualification, press the BREAK key or the equivalent on your keyboard. Statistics will be displayed for an incomplete free text qualification.

The qualification results/statistics/question are retained in the computer until it is displaced by another qualification command or until your terminal is shut down or terminated.

Other commands used to Qualify:

CHAPTER 7 - LIST

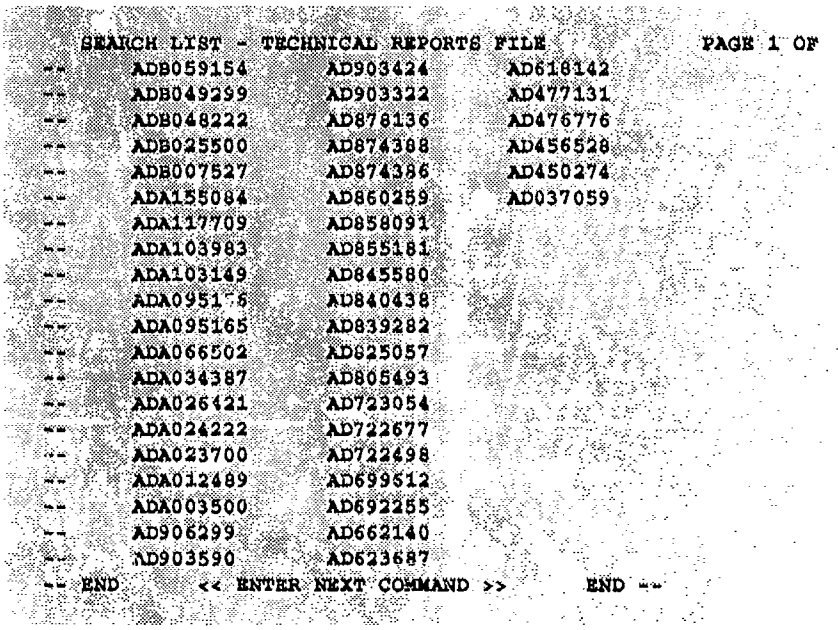
There are several ways to list search results. The simplest, although not the most informative, is to list the accession numbers that were found. The commands are as follows:

@LSR@ - LIST SEARCH RESULTS

This command can be used in the TR, CF, WU and IR&D databases. It enables you to list the accession numbers of the citations identified in a search in descending order 4 columns across, 21 accessions per column. A maximum of 84 accession numbers are listed on each screen. An example of the list command with TR database results is shown below.

Example: @lsr@

System Response:



```
   SEARCH LIST - TECHNICAL REPORTS FILE          PAGE 1 OF
--     ADB059154     AD903424     AD618142
--     ADB049299     AD903322     AD477131
--     ADB048222     AD878136     AD476776
--     ADB025500     AD874388     AD456528
--     ADB007527     AD874386     AD450274
--     ADA155084     AD860259     AD037059
--     ADA117709     AD858091
--     ADA103983     AD855181
--     ADA103149     AD845580
--     ADA095176     AD840438
--     ADA095165     AD839282
--     ADA066502     AD825057
--     ADA034387     AD805493
--     ADA026421     AD723054
--     ADA024222     AD722677
--     ADA023700     AD722498
--     ADA012489     AD699512
--     ADA003500     AD692255
--     AD906299     AD662140
--     AD903590     AD623687
-- END      << ENTER NEXT COMMAND >>      END --
```

NOTE: A specific page of a multi-page listing may be viewed by entering P (upper or lower case) followed by the page number you wish to view.

Example: P6

To view another page, reenter P followed by the page number you wish to view next. It is not necessary to include END prior to transmitting.

@LQR@ - LIST QUALIFIED RESULTS

This command can be performed only in the TR, WU and IR&D databases. It will give you a listing of the accession numbers resulting from your qualification, in descending order.

@LUF@ - LIST USER FILE

This command can be performed only in the TR, WU and IR&D databases. After building and closing a user file, you may want to list its contents. The accession numbers will be listed in the order you added the items to the file.

CHAPTER 8 - RECALL

This function permits you to redisplay the most recent strategy or the most recent search statistics.

NOTE: It is not necessary to type END after this command before transmitting.

@RSQ@ - RECALL SEARCH QUESTION

This command will display the last search question only, regardless of the database - but not the initial search command. This particular feature can be very convenient if you have a dedicated terminal and you want to modify or expand your search strategy. On the dedicated system, you can add terms, delete terms or add various search options without having to retype the complete strategy. Remember to re-enter the search command before you TRANSMIT. On the Dial-Up system you must retype the search strategy.

MULTIPLE SCREEN RECALLS

Dedicated

If your strategy consisted of multiple screens, use @STRRSQ@, @SWURSQ@, or @SCFRSQ@ to recall the query. The system will respond with the first page of your search query. To display the next page, place the cursor on the last line of the screen and transmit. Follow the same procedure to display succeeding pages, if any. If you choose to edit the search, do not re-enter the search command at the top of the first page, edit the first page as needed, move the cursor below the last term on the screen, and TRANSMIT. The next page of your search query will then appear. Repeat as necessary. Once editing is complete, END your search and TRANSMIT.

Examples:	*Technical Report*	*Work Unit*	*Current File*
	@STRRSQ@	@SWURSQ@	@SCFRSQ@

Dial-Up

To recall a multiple screen search on a dial-up system, use @RSQ@. The system will respond with:

```
FOR MORE OF SEARCH QUESTION KEY IN Y.
```

It is only possible to review the search strategy. To edit, you must retype the search strategy and TRANSMIT.

@RSS@ - RECALL SEARCH STATISTICS

This command will redisplay page one of your most recent search statistics. To view additional pages of statistics, you have the choices of **P**, **C** or **W**.

P - One page at a time.
C - All pages continuously.
W - All pages continuously, with simultaneous print

Example: @rss@

@RQQ@ - RECALL QUALIFIED QUESTION

This command will redisplay the last qualification question from the search results, user file or free text.

Example: @rqq@

@RQS@ - RECALL QUALIFIED STATISTICS

This command will redisplay the latest qualification statistics from the qualified search results or user file.

Example: @rqs@

CHAPTER 9 - ORDER

You may use the terminal to order selected products of search results. From the TR database, you may order bibliographies, indexes, or bibliographies with indexes, as well as hard-copy, microfiche documents, or nonprint products. You can also order limited documents using an online version of the DTIC Form 55. Be sure the information requested on each order is correct before transmitting - DTIC DOES NOT CREDIT NTIS DEPOSIT ACCOUNTS FOR DOCUMENTS ORDERED IN ERROR. From the WU and IR&D database, you may also order summaries, indexes, or a combination of both.

@OSR@ - ORDER SEARCH RESULTS

This command is used to place bibliography/summary, document, microfiche, or multimedia product orders of your search results. The format used indicates the type of product being ordered. See Appendix 6 for ordering formats.

BIBLIOGRAPHY ORDER

The format to order a bibliography from your TR search results is TR6000. Duplicate citations are automatically eliminated. The command appears like this:

Examples:	*Technical Report*	*Work Unit*	*IR&D*
	@osr@	@osr@	@osr@
	tr6000	a0002	ir0001
	end	end	end

If you request accession numbers which were accessioned more than ten years ago, a variant of the following message will be displayed.

```
-- NORMAL TECHNICAL REPORTS BIBLIOGRAPHY PROCESSING IS LIMITED
-- TO LAST 10 YEARS.
-- ACCESSIONS WITHIN 10 YEAR RANGE          10
-- ACCESSIONS OUTSIDE 10 YEAR RANGE         18
-- YOUR PRODUCT ORDER WILL CONSIST OF ACCESSIONS WITHIN THE
-- 10 YEAR RANGE UNLESS HELD FOR DEFERRED PROCESSING.
-- ENTER Y TO HOLD FOR DEFERRED PROCESSING
-- OR N FOR NORMAL PROCESSING.
```

Your response should be Y if you want to order all the citations, N if you want your bibliography to reflect just the citations within the 10 year range. Enter your selection and transmit. The system will respond with a request for further information about your order.

NOTE: The normal system limit per bibliography order is 200 items. Sites may request higher limits by writing DTIC-BCS (Registration), Cameron Station., Building 5, Alexandria, VA 22304-6145

Dedicated Site: System response to bibliography order.

```
SEARCH CONTROL NUMBER:
USER CODE:
CONTRACT NUMBER: (LAST 6 CH.)
REQUESTER:
TITLE:
REFERRALS:
LIMITATIONS:
BIBLIOGRAPHY CLASS:
SORT BY CLASSIFICATION:
CLASSIFIED ACCESSIONS ONLY:
EXTRA TITLE PAGE:
REVIEW:

-ENTER REQUIRED DATA AND TRANSMIT ENTIRE PAGE
```

Dial-Up Site: System response to bibliography order.

```
SEARCH CONTROL NUMBER:          SCN:
USER CODE:                      UCO:
CONTRACT NUMBER: (LAST 6 CH.)   CNO:
REQUESTER:                      REQ:
TITLE:                          TTL:
REFERRALS:                      REF:
LIMITATIONS:                    LIM:
MAXIMUM VOLUME:                 MAX:
BIBLIOGRAPHY CLASS:             BCL:
SORT BY CLASS:                  SCL:
EXTRA TITLE PAGE:               ETP:
REVIEW:                         REV:

--ENTER REQUIRED DATA AND TERMINATOR *END* AND TRANSMIT
```

Screen displays may differ somewhat depending on your organization type. Appendix 5 (Order Parameters) contains a description of the responses for TR bibliography orders. The appendix indicates which responses are mandatory and which are optional, as well as the format for entering the data. The choices offered enable you to put some limitations on your output and to help your organization process the order after it has been received. We suggest you leave the Search Control Number blank and enter a name for requester and a title for the bibliography as a minimum.

Dedicated Sites

If you're operating a dedicated synchronous terminal, you may use the TAB key to move to each parameter field. Enter information for each required parameter, then move the cursor down below the last parameter line and transmit the entire page. Dedicated sites do not need to type END. If you do not transmit the entire page, or if you make a critical error or omission, the system will respond with:

```
--FIELD TITLES NOT TRANSMITTED
--PARAMETER PAGE WILL BE RE-DISPLAYED
--PLEASE RE-SUBMIT ALL PARAMETERS WITH TITLES
--ENTER Y IF YOU WISH TO CONTINUE
```

NOTE: To receive classified information, a contractor must enter the last six characters of a valid classified contract. To receive an unclassified bibliography all sites must enter BCL:1 or the system will assume you want a classified bibliography (if classified reports are contained in your order).

To continue, enter Y, and transmit. If you do not wish to continue, enter N and transmit. The system will respond with a confirmation of your bibliography order similar to the following:

```
FINAL SYSTEM RESPONSE TO BIBLIOGRAPHY ORDER:

--PRODUCT ORDER COMPLETED
--  SCN: NCM11L
--FILE NAME: ONLINE000458
--USER CODE: 12345
--NO.  ITEMS:  28
--ACCESSIONS: WITHIN 10 YEAR RANGE 10
--ACCESSIONS: OUTSIDE 10 YEAR RANGE 18
--  DATE:  061689
--  TIME:  140110
```

We suggest you print each Product Order Completed message. If you should need to follow up or cancel an order, you must have the SCN (Search Control Number) and the File Name Online number. Orders must be cancelled before 1930 hours Eastern Standard/Eastern Daylight Time the same day they were placed. On the business day following your bibliography order, we recommend you check the order status by using the **@DOL@** (Display Order Log) command to verify that your order was accepted.

Dial-up Sites

If you are operating a Dial-Up terminal, you must type the stubs and enter the information for the required parameter stubs line by line (See Appendix 5), the terminator END, and then transmit. To receive classified information, a contractor must enter the last six digits of a registered classified contract number: CNO: XXXXXX. To receive an unclassified bibliography, all sites must enter BCL: 1, or the system will assume you want a classified bibliography, if your order contains classified reports.

Bibliography Order with Index

You may also order indexes to the bibliography. Bibliography index formats are given in Appendix 6 (Order Formats). For example, you might want a bibliography with a personal author index. The format for personal author is TR 2025. Your request should look like this:

Example:
```
@osr@
tr6000
tr2025
end
```

NOTE: Indexes may also be ordered without a bibliography.

Product Orders - TR Database

Hard Copy, Microfiche, or Nonprint

You may also order the actual documents either as hard copy or microfiche. For ordering purposes, hard copy and fiche are considered different formats. The hard copy and nonprint format is TR3061; the fiche format is TR3062. See also Appendix 6 (Order Formats).

Examples:

Hard Copy	*Microfiche*	*Nonprint*
@osr@	@osr@	@osr@
tr3061	tr3062	tr3061
end	end	end

NOTE: The normal system limit per document and nonprint product order is 25 items. If your order exceeds the limit, the system will respond with a warning statement. Although the 25 item ceiling cannot be raised while you are online, it may be circumvented by use of transfer commands and user files. You may discuss these methods by contacting the Network Services Branch at (703) 274-7791 or DSN 284-7791, or contact the Registration Branch at (703) 274-7709 or DSN 284-7709 to discuss your site's need for a higher order limit.

A system response will indicate the cost of the document order. The response when ordering two or more documents will be similar to the following:

```
--DOCUMENTS ARE REQUESTED IN YOUR PRODUCTS ORDER
--THE TOTAL COST FOR DOCUMENTS IS $XX.XX.
--ENTER Y TO CONTINUE OR N TO ABORT REQUEST
```

If you choose Y to continue, the system will respond with a request for further information about your order. Enter the required information and transmit. To receive classified products, a contractor must enter the last 6 characters of a registered classified contract. See Appendix 5 (Order Parameters) for additional information. Example of a Dedicated terminal site response is as follows:

```
SEARCH CONTROL NUMBER:
USER CODE:
CONTRACT NUMBER: (LAST 6 CH.)
REQUESTER:
DEPOSIT ACCOUNT:

--ENTER REQUIRED DATA AND TRANSMIT ENTIRE PAGE
```

The system will respond with a final message similar to the following example. This message gives certain information which identifies the order. We recommend you print this response.

```
--PRODUCT ORDER COMPLETED
   SCN:  A0N23J
   --FILE NAME:  ONLINE 000083
   --USER CODE:  25700
   --NO. ITEMS:  23
   DATE:  102288
   TIME:  142349
```

NOTE: To receive both hardcopy and microfiche for an order placed via the online system, the order command must be entered twice: once giving the format for hardcopy (TR3061) and once for microfiche (TR3062). Nonprint orders are transmitted in the same manner as hardcopy orders.

@OSR@ - ORDER SEARCH RESULTS

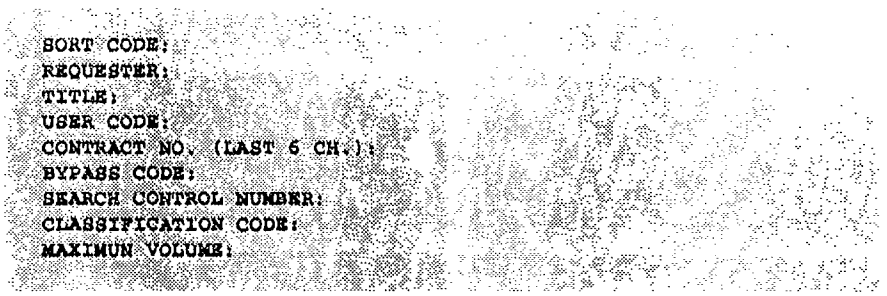
PRODUCT ORDERS (SUMMARIES) - WU AND IR&D DATABASE

You may order WU and IR&D summaries. The format number for a complete WU summary is A0002. The format number for a complete IR&D summary is F0001.

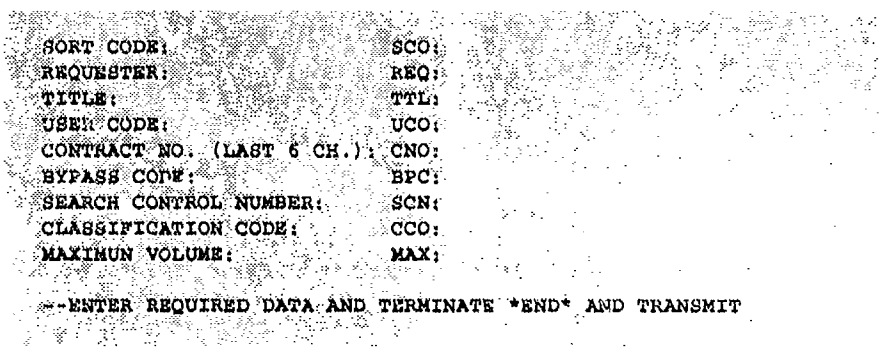
Example:	Work Unit	IR&D
	@osr@	@osr@
	a0002	f0001
	end	end

The system response (Display of Order Stubs) for WU and IR&D orders is the same.

Dedicated Site: System response to WU and IR&D orders.



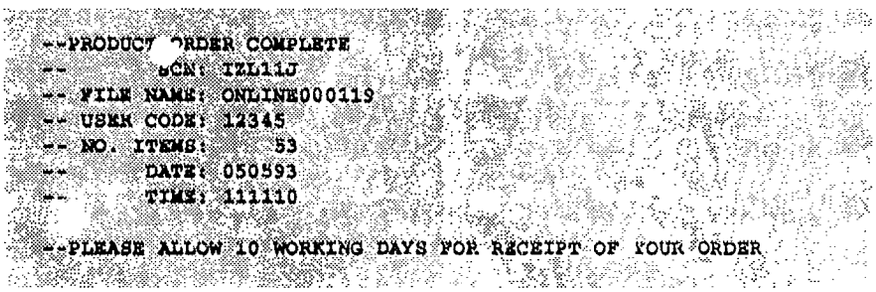
Dial-UP Site: System response to WU and IR&D orders.



Screen displays may vary depending on your organization type. Appendix 5 (Order Parameters) contains a description of the responses to WU and IR&D orders. The appendix indicates which responses are mandatory and which are optional. We suggest you leave the Search Control Number blank and enter a name for the requestor and a title for the product.

NOTE: To receive classified information a contractor must enter the last six characters of a valid classified contract.

After entering the required/optional order stubs dial-up users must type END, then transmit your order request. The system will respond with a PRODUCT ORDER COMPLETE message similar to the following example. We recommend you print this response.



```
--PRODUCT ORDER COMPLETE
--        UCN: IZL11J
-- FILE NAME: ONLINE000119
-- USER CODE: 12345
-- NO. ITEMS:    53
--       DATE: 050593
--       TIME: 111110

--PLEASE ALLOW 10 WORKING DAYS FOR RECEIPT OF YOUR ORDER
```

@OOS@ - ORDER ORIGINAL SEARCH

This command may be used at unclassified terminal sites to obtain WU summaries of any classification to which the facility is entitled. The number of WU summaries generated by the **@OOS@** command may greatly exceed the number of summaries identified in the search statistics. The display and responses are the same as ordering search results (**@OSR@**) in the TR database.

When the **@OOS@** command is used with TR orders, the default search is to ALL or the entire database. It overrides all time limitations. If you executed a normal 10 year search in the TR database, the **@OOS@** would order search results from the entire database, not just the past 10 years.

The **@OOS@** command also allows you to exceed your maximin volume amount, which is normally set at 200 citations.

NOTE: The number of items in the Product Order Completed Statement will be blank. Since DTIC will process the order later (offline), a total will not be displayed at this time.

@OQR@ - ORDER QUALIFIED RESULTS

This command is used to order the results of a qualification. The display and responses are the same as ordering search results.

@OUF@ - ORDER USER FILE

This command is used to order documents or bibliographies of user file citations. The display and responses are the same as ordering search results.

NOTES: Document ordering online does not override the classification or distribution limitation. Refer to page 9-9 for ordering procedures for limited documents.

To receive multiple copies of the same document, you must enter the AD number as many times as you want copies, (i.e., if you need three copies, enter the AD number three times.) A common way of ordering paper or microfiche copies of documents is to build a user file using the @TA@ (Transfer Accession) command and then order the user file.

PRIORITY AND EXPRESS RUSH ORDERS

Only technical report documents, in either hard copy and nonprint (**TR3061**) or microfiche (**TR3062**), may be ordered online as priority or express rush orders. There are additional charges for these services. For priority service (one day in-house processing, U.S. Postal Service 1st Class Mail), the fee is an additional $10.00 per document/product; and for express service (one day in-house processing, U.S. Postal Service Express Mail), the fee is an additional $20.00 per document/product. These prices apply to hard copy/nonprint, and microfiche. Be sure all orders are correct before transmitting. *DTIC DOES NOT CREDIT NTIS DEPOSIT ACCOUNTS FOR DOCUMENTS ORDERED IN ERROR.* If you want to place a rush order, use one of the following commands, enter the document format, END and then transmit.

Priority Service $10.00

@OSRPRI@ - Order Search Results Priority

@CUFPRI@ - Order User File Priority

@OQRPRI@ - Order Qualified Results Priority

Express Service $20.00

@OSREXP@ - Order Search Results Express

@OUFEXP@ - Order User File Express

@OQREXP@ - Order Qualified Results Express

E-MAIL ORDERING

DTIC products and services can be ordered through the e-mail address: **msorders@dgis.dtic.dla.mil**. Orders may also be placed through the Department of Defense Gateway Information System (DGIS) using the template provided in the communication option. Orders placed through this communication option are automatically sent to the msorder mailbox. Questions concerning how to order through e-mail should be directed to DTIC's Reference Services Branch (703) 274-7633 or DSN 284-7633.

@FORM55@ - ONLINE LIMITED DOCUMENT ORDERS

Hard Copy, Nonprint or Microfiche

Many technical reports have a distribution limitation statement that requires special release permission from the controlling organization before the document order can be filled by DTIC. Documents which have a limited distribution can generally be distinguished by the suffix L displayed following the accession number. An example of a limited document can be seen by displaying AD-B127 768. The command to display a technical report is shown below, followed by the results. Complete display information can be found in Chapter 3 - DISPLAY.

NOTE: Do not include the L in the display command or the order command. Form 55 orders may be ordered by original or FAXed copy of the Form 55.

Example:
```
@dtr@
adb127768
7f
end
y
```

The display will appear similar to the following example. Note that this report is limited to government agencies only. Contractors, universities, and others cannot obtain this document without the permission of the controlling organization indicated in Field 22.

```
RESULT: - 1 OF 1
-- 1 - AD NUMBER: B127768L
-- 2 - FIELDS AND GROUPS: 10/2, 25/2
-- 5 - CORPORATE AUTHOR: AIR FORCE WEAPONS LAB KIRTLAND AFB NM
-- 6 - TITLE: THE 1986 OVERHEAD AND UNDERGROUND POWER AND
--     COMMUNICATION CABLE SURVIVABILITY PROGRAM -QUICK- LOOK REPORT.
-- 9 - DESCRIPTIVE NOTE: FINAL REPORT, APR 86, APR 87
--10 - PERSONAL AUTHORS: NICHOLAS, L T
--11 - REPORT DATE: AUG , 1988
--12 - PAGINATION: 62P  MC COST: $ 5.00
--14 - REPORT NUMBER: AFWL-TR-88-35
--20 - REPORT CLASSIFICATION: UNCLASSIFIED
--22 - LIMITATIONS (ALPHA): DISTRIBUTION AUTHORIZED TO U.S.
--     GOV'T AGENCIES ONLY; TEST AND EVALUATION; AUG 88.  OTHER
--     REQUESTS SHALL BE REFERRED TO AFWL-NTES, KIRTLAND AFB, NM
--     87117-6008.  THIS DOCUMENT CONTAINS EXPORT-CONTROLLED
--     TECHNICAL DATA.
-33 - LIMITATION CODES: 3 57
******
                    END OF DISPLAY LIST
                << ENTER NEXT COMMAND >>
```

To order a limited document online enter the following command:

@FORM55@

System Responses:

```
--SUBMIT DATA USING THE FOLLOWING DESIGNATORS
--AD NUMBER - 8 OR 9 CHARACTERS                          ADN:
--USER CODE - 5 DIGITS                                   UCO:
--COPY TYPE - MF AND/OR HC                               CPY:
--QUANTITY -                                             QTY:
--REQUIRED FOR (JUSTIFICATION) -                         RQF:
--REQUESTORS NAME -                                      REQ:
--USER ROUTING -                                         ROU:
--GOVERNMENT SPONSOR AND ADDRESS -                       GOV:
--CONTRACT MONITOR NAME AND TELEPHONE -                  CMO:
--REQUESTERS TITLE -                                     RTL:
--FACILITY CLEARANCE - TS, S, C, R OR U                  FCL:
--COMPLETE CONTRACT NUMBER -                             CNO:
--CONTRACT CLEARANCE - TS, S, C, R OR U                  CCL:
--DEPOSIT ACCOUNT NUMBER - 5 DIGITS                      DAN:
--SHIP AND BILL ADDRESS -                                SBA:
--RELEASING AGENCY AND ADDRESS -                         REL:
--ENTER GOV: AND REL: FIELDS IN POST OFFICE FORMAT
--ENTER SBA: OR DAN: FIELDS, BUT NOT BOTH
--ENTER DESIRED PARAMETERS, TERMINATE WITH END AND TRANSMIT.
```

To proceed: Enter only those parameters required, one per line, include the three character designator, followed by a colon, followed by the data. Terminate with END and transmit.

Mandatory parameters for all sites:

ADN:
UCO:
CPY:
QTY:
RQF:
REQ:
REL:
DAN:

Additional parameters required for contractors and grantees:

FCL:
GOV:
CMO:
CNO:
CCL:

NOTE: Dial-Up users must enter order stubs with a colon (:) and order data. Then terminate with END, and transmit.

It is extremely important that the entire contract number including punctuation, and the releasing agency address be completed. Appendix 5 provides the information necessary to complete the parameters for an order.

Once you have keyed in all the required parameters and data elements for your site, we recommend that you print a copy of your entries, terminate with END, and transmit.

Your entry should be similar to the following:

Example:
adn:adb127768
uco:12345
cpy:mf,hc
qty:1,1
req:Wayman/DTIC-B
rel:COMMANDER
rel:NAVAL AIR SYSTEMS COMMAND
rel:ATTN: AIR-954
rel:WASHINGTON, DC 20361
rqf:FOR IN-HOUSE TESTING PURPOSES ONLY!!!
(This field will only hold 1100 characters; Please use a carriage return at the end of each line entered)
dan:54321
end

System Response:

```
--FORM 55 COMPLETED
```

NOTE: This is your Product Order Completed message.

DROLS will scan the data you submitted to ensure that entries have been made for the required fields, and that entries meet basic syntactical requirements for field length, character type, etc. If errors are detected, DROLS will respond with a message indicating the errors (see the following examples). Re-enter only the parameters in error.

```
--INVALID TYPE COPY: PLEASE ENTER AS MF; HC; OR MF, HC
--INVALID AD NUMBER: PLEASE RESUBMIT
--INVALID USER CODE: PLEASE ENTER AS FIVE NUMERICS
--FIELD RQF: (JUSTIFICATION) IS MANDATORY
--FIELD REQ: (REQUESTERS NAME) IS MANDATORY
--FIELD REL: (RELEASING AGENCY AND ADDRESS) IS MANDATORY
--CPY AND QTY FIELDS: MUST BE RESUBMITTED

--ENTER DESIRED PARAMETERS.  TERMINATE WITH END AND TRANSMIT
```

NOTE: If the re-keyed line contains fewer characters than the original, the remaining characters will carry through and be printed on the Form 55. For example, if you initially enter the Government sponsor and address in 5 lines, and re-key the entry in 4 lines, the 5th line from the original keyed-in version will be transmitted. In situations where there is extensive re-keying involved or the potential to transmit residue, it is best to abort the original request and start over by keying:

@FORM55@

NOTES: To cancel a FORM 55 request, call DTIC's Registration Branch at (703) 274-6985 or DSN 284-6985. FORM 55 orders will not appear on the Order Log. Therefore, your copies, with dates of input, are important records to maintain.

ORDERING ADDITIONAL LIMITED DOCUMENTS

This feature allows you to enter multiple requests for limited documents without having to re-key those fields having duplicate data. The command to order additional limited documents online is:

@ADD55@

The system will again give you the list of parameters necessary to order a limited document. However, only one parameter is mandatory with this command, and that is the AD number (ADN:).

You may re-enter any other parameters if desired. All remaining data necessary will automatically be picked up from your previous Form 55 request. As before, terminate with END and transmit.

System response:

```
--ADDITIONAL FORM 55 COMPLETED
```

CAUTION: If the re-entered parameter contains fewer characters than the original, the remaining characters will be carried through and printed on the Form 55.

PROCESSING FORM 55 ORDERS

Form 55 orders placed through DROLS will be printed at DTIC that evening. Two copies of the Form 55 are produced for each order - one for internal DTIC control, and one for routing to the controlling organization.

Unlike unlimited TR orders, Form 55 orders cannot be displayed via the online Display Order Log command **@DOL@**. DTIC will notify you by phone or letter of any problems are detected in your order.

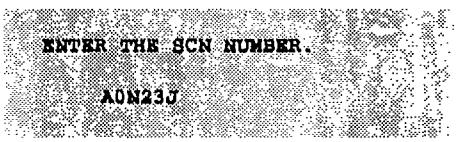
If there are no problems with the information you furnished in your online Form 55 order, DTIC will forward the order to the releasing organization who will make the determination concerning your request. You can generally expect to receive either the requested document or a denial notification 3 weeks to 3 months from the date that your original order was placed. DTIC contacts releasing agencies that fail to respond to limited document orders after 45 days; however, if the releasing agency fails to respond after 90 days, your request will be cancelled. Questions regarding the status of Form 55 orders may be directed to the Registration Branch at (703) 274-6985 or DSN 284-6985.

@CO@ - CANCEL ORDER

The command to cancel a bibliography or a document/nonprint order is **@CO@**. Look at the final system response to your order and note the File Name and the Search Control Number (SCN). Be careful to read the numbers correctly, so zeros and Os aren't misread. To cancel an order, enter the cancel command, the 6 digit file name and transmit.

Example: **@CO@**
000083

The system will then ask for the last 6 characters of the SCN.



The final response will be:

NOTE: You must cancel an order during DROLS operational hours on the same day the order was placed. Check orders carefully. Portions of an order cannot be deleted. If you find there is part of an order you do not want, the entire order will have to be cancelled and the documents you want will have to be reordered. DTIC does not credit accounts for documents ordered in error via the terminal. Again, to cancel online Form 55 orders, call the Registration Section (703) 274-6985 or DSN 284-6985.

ATI AND TIP DOCUMENTS

DTIC's collection of Air Technical Index (ATI) and Technical Information Pilot (TIP) documents consist of approximately 275,000 intrinsically valuable scientific and technical reports generated between 1946 and early 1953.

Since ATI and TIP documents are not accessible through DROLS, they must be manually searched and ordered by DTIC's Reference Services Branch personnel.

Caution: certain ATI and TIP reports may no longer be available due to deteriorated or illegible master copies.

How To Order ATI and TIP Documents

Cite the ATI or TIP report number when available. If report numbers are not available, please provide all of the pertinent bibliographic information you can for each document you want to order.

For additional ordering information, please contact DTIC's Reference Services Branch on (703) 274-7633 or DSN 284-7633.

PROBLEMS WITH ORDERS

If you have a problem with a document order, call our Complaints and Inquiries Processor (703) 274-0981 or DSN 284-0981 within 30 days of the original order date and have your DTIC User Code, NTIS deposit account number, the AD numbers in question, and any other information related to your order ready when you call.

If you have a problem with a TR bibliography, a WU, or IR&D summary you have ordered, please call the Registration Branch (703) 274-7709 or DSN 284-7709 for assistance.

APPENDIX 1 - GENERAL INFORMATION

IMPORTANT TELEPHONE NUMBERS

NETWORK SERVICES BRANCH 274-7791
DROLS Training and Support
DROLS Problem Solving

TECHNICAL CONTROL OFFICE 274-7251
Telecommunications Support (DROLS)
DROLS Connect Problems

VOICE RECORDING OF DROLS STATUS 274-7882

REFERENCE SERVICES 274-7633
General Information
Document Identification
Document Ordering
Document Complaints & Inquiries 274-0981

REGISTRATION & SERVICES 274-6871
User Codes & Deposit Accounts
Forms & Brochures
Changes to Registration Status
Requests for Limited Documents.....274-6985
Defense RDT&E Online Service (DROLS)
Registration 274-7709

RETRIEVAL ANALYSIS BRANCH 274-6867
Search Strategy Assistance

ADP SECURITY (DASC-IO) 274-4684

Area Code (703)
If dialing DSN, use 284 as prefix.

REFERENCE DOCUMENTS

Reference Documents aid system operators in using DROLS. The following is a list of reference documents used with this handbook.

DTIC Thesaurus

This document lists the controlled vocabulary currently used for subject indexing and retrieval of records in DTIC's database. The Thesaurus is divided into three sections: a list of posting terms together with broader and narrower terms when they exist; a display of the posting terms hierarchy; and a Keyword Out of Context (KWOC) listing of posting terms.

Source Header List

The Source Header List is a two volume listing of all source names arranged in alphabetical order. Each entry consists of:

Source Name.

Source Code - Unique six numeric characters used to represent source name.

Geopolitical Codes - Four alphanumeric characters, assigned as follows: positions one and two represent country, area, or state where source is located; positions three and four (if present) represent Congressional district where source is located (Appendix-8).

Type Code - One alphanumeric character, used to represent the type of contributing organization (Chapter 2, Table 9, page 48 and Table 10, page 49).).

Source Hierarchy List

The Source Hierarchy List is an alphabetical arrangement of hierarchical linkages established for computer retrieval of source names used by DTIC. This is a companion to and not a replacement for Source Header List.

Directory of Organizational Technical Report Acronym Codes (DOTRAC)

DOTRAC is a guide to the technical report number acronyms used by the organizations who contribute technical reports and management information to DTIC. The listing contains entries for the Department of Defense (DoD), federal government, and foreign military organizations. *(Formerly titled "Government Acronyms and Alphabetic Organizational Designations used in DTIC".)*

Subject Term Frequency Counts for the Department of Defense Information Analysis Centers (DTICH 4184.9)

This manual provides an alphabetic listing of the subject terms currently in use by the following Information Analysis Centers: Guidance and Control, Metals and Ceramics, Metal Matrix Composites, Non-Destructive Testing, and Plastics Technical Evaluation Center.

Research and Technology Work Unit Information System Regulation (DoD 3200.12-R-1, August 1983)

This regulation prescribes uniform procedures relevant to the control and reporting of technical and management data to a central database on ongoing research and technology efforts at the work unit level.

APPENDIX 2 - TERMINAL USER CONDITION MESSAGES

TERMINAL MESSAGE	DESCRIPTION	USER ACTION
ON		
*MSG ON1 SIGN-ON ACCEPTED	DROLS System has validated the user and allowed access	N/A
*MSG ON2 SIGN-ON REJECTED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG ON3 SIGN-ON REJECTED *REVIEW SIGN-ON PROCEDURES	Sign-on Error	Call DTIC Tech Control.
*MSG ON4 SIGN-ON REJECTED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG ON5 THIS TERMINAL IS CURRENTLY ACTIVE WITH DROLS *PLEASE CONTINUE WITH NEXT DROLS COMMAND	Terminal is already active	Continue with next DROLS command.
*MSG ON6 SIGN-ON REJECTED *REVIEW SIGN-ON PROCEDURES	Illegal Terminal ID used	Check for data error. If correct, call DTIC Tech Control.
*MSG ON7 SIGN-ON REJECTED *NOTIFY DTIC TECH CONTROL	Terminal has been disabled	Call DTIC Tech Control.
*MSG ON8 USER TERMINAL NOT SIGNED ON TO DROLS SYSTEM. PLEASE REFER TO SIGN-ON PROCEDURES	Sign-on error	Identify your terminal with DROLS sign-on command.
*MSG ON9 SIGN-ON REJECTED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.

*MSG ON10 SIGN-ON REJECTED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG ON11 INITIALIZATION ERROR: PLEASE SIGN-ON AGAIN	DROLS System Error	If continuous, call DTIC Tech Control.
*MSG ON12 SIGN-ON REJECTED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG ON13 SIGN-ON REJECTED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
DI		
*MSG DI1 USER TERMINATED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG DI2 USER TERMINATED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG DI3 USER TERMINATED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG DI4 DROLS PROCESSING *LAST INPUT IGNORED	Terminal is in output mode	Wait for data to return.
*MSG DI5 USER TERMINATED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG DI6 USER TERMINATED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG DI7 USER TERMINATED*NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.

*MSG DI8 USER TERMINATED*NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG DI9 USER TERMINATED*NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG DI10 LAST INPUT NOT PROCESSED - PLEASE RETRANSMIT LAST MESSAGE	FEP or Communication Line Failure	Re-Enter Last Command. Async Users - Re-enter last line; Sync Users - retransmit last screen.
DO		
*MSG DO1 USER TERMINATED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG DO2 USER TERMINATED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG DO3 USER TERMINATED	DROLS System terminating this user	Standby for Broadcast or call Voice Recorder.
*MSG DO4 USER TERMINATED *NOTIFY DTIC TECH CONTROL	DROLS System terminating this user	Call DTIC Tech Control.
*MSG DO5 CANNOT INITIALIZE SITE *NOTIFY DTIC TECH CONTROL	DROLS System will not allow this site to activate	Call DTIC Tech Control.
*MSG DO6 USER TERMINATED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG DO7 PLEASE SIGN OFF TERMINAL	Normal termination request	N/A
*MSG DO8 USER TERMINATED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.
*MSG DO9 USER TERMINATED *NOTIFY DTIC TECH CONTROL	DROLS System Error	Call DTIC Tech Control.

APPENDIX 3 - FIELD IDENTIFICATION CODES

TECHNICAL REPORT FILE

Element Name	Role Code	Qualify	Display	Sort
AUTHORS				
Corporate - Code (6 n)	02		35	35
Corporate - Name of Source			5	5
Personal *(i.e., DOE JJ)*	11		10	10
CONTRACT/GRANT Information				
Number (Max 35 a/n packed)	16		15	15
DATES				
Period Covered			9	9
Report Date (YYMMDD)	24	11	11	11
DISTRIBUTION LIMITATION				
Alpha Statements			22	22
Code (1-2 n)		33	33	33
DOCUMENT (Physical Characteristics)				
IAC Document Type	45		43	43
Pages			12	12
Price			12	12
LOCATION				
Document			36	36
State & Congressional District Code	30		40	40
NOTES				
Descriptive Note			9	9
Supplementary Note			21	21
NUMBERS				
DTIC Assigned Accession (8/9 a/n)			1	1
IAC Assigned Accession (Max 12 a/n)	04		42	42
Project Number (Max 35 a/n packed)	21		16	16
Serial Number (F,S,A,1,2, etc.)	52		34	34
Task Area Number (Max 35 a/n packed)	20		17	17
ORGANIZATION/AGENCY				
Monitor Acronym	03		18	18
Source Code (6 n)	02		35	35
Source Name			5	5
Type Code		41	41	41
REPORT NUMBER	51		14	14
Acronym (Max 20 a/n packed)	03		18	18
Series (Max 35 a/n packed)	53		19	19

a = Alpha, a/n = Alphanumeric
n = Numeric

FIELD IDENTIFICATION CODES

TECHNICAL REPORT FILE

Element Name	Role Code	Qualify	Display	Sort
SBI Site Holding Symbol	59		48	
SECURITY				
Abstract Classification			28	28
Descriptor Classification			24	24
Entry/Citation Classification (S,C,R)	57		3	3
Identifier Classification			26	26
Report Classification (S,C,R)	58		20	20
Authority for Change			49	
Classification Authority			37	37
Declassification Date			38	38
Downgrading Date			39	39
Reclassification Code			32	32
Special Indicator			31	31
Title			8	8
SUBJECT TERMS				
Abstract			27	27
Annotation			30	30
Descriptors/Posting Terms	00		23	23
Fields/Groups	54		2	2
Identifiers	00		25	25
IAC SUBJECT TERMS				
All IACs	IACS=			
CBIAC	39 D--		44	44
CPIA	42 A--		44	44
CSERIAC	37 E--		44	44
GACIAC	44 G--		44	44
HTMIAC	38 H--		44	44
IRIA	36 I--		44	44
MIAC	48 M--		44	44
MMCIAC	43 C--		44	44
MTIAC	40 T--		44	44
NTIAC	47 N--		44	44
PLASTEC	46 P--		44	44
SURVIAC	41 S--		44	44

a = Alpha, a/n = Alphanumeric
n = Numeric

FIELD IDENTIFICATION CODES

TECHNICAL REPORT FILE

Element Name	Role Code	Qualify	Display	Sort
TITLE				
Unclassified			6	6
Classified			7	7
First Five Words	56			
Key Algorithm (1,4,3,?,2)	55			
Free Text	60			
FIELDS & GROUPS	54		2	2

a = Alpha, a/n = Alphanumeric
n = Numeric

FIELD IDENTIFICATION CODES

CURRENT FILE

Element Name	Role Code	Qualify	Display	Sort
CONTRACT/GRANT Information				
Number (Max 35 a/n packed)	16		15	15
DATES				
Report Date (YYMMDD)	24		11	11
LOCATION				
State & Congressional District Code	30		40	40
REPORT NUMBER				
Acronym (Max 20 a/n packed)	03			18
Series (Max 35 a/n packed)	53			19
Source Series (Max 35 a/n packed)	51		14	14
Serial Number (F,S,A,1,2, etc.)	52		34	34
NOTES				
Descriptive Note			9	9
Supplementary Note			33	33
NUMBERS				
DTIC Assigned Accession (8/9 a/n)			1	1
PROJECT NUMBER				
Report Number (Max 35 a/n packed)				
Monitor (Max 35 a/n packed)	53		19	19
SBI Number	53		19	19
Source Series (Max 35 a/n packed)	51		14	14
ORGANIZATION/AGENCY				
Monitor Acronym (Max 20 a/n packed)	03		18	18
Originating Agency				
Source Code (6 n)	02		35	35
Source Name			5	5
SECURITY				
Report Classification (S,C,R)	58		20	20
TITLE				
Unclassified			6	6
First Five Words	56			
Key Algorithm (1,4,3,2,2)	55			
Free Text	60			

a = Alpha, a/n = Alphanumeric
n = Numeric

FIELD IDENTIFICATION CODES

WORK UNIT SUMMARIES

(Sorted by Data Element Numbers)

Element Name	Mnemonic	Search	Display	Qualify	Sort
Agency Accession Number	AN	N	Y	N	Y
Agency Accession Number - Agency Digraph	AND	Y	N	N	N
Agency Accession Number - Sequence Number	AN	N	Y	N	Y
Transaction Type	TT	Y	Y	N	N
Status of Effort	SE	Y	Y	Y	N
Performance Method	PM	Y	Y	Y	Y
Performance Type	SI	Y	Y	N	N
Date of Summary	RD	Y	Y	Y	Y
Date of Preceding Summary	PRD	Y	Y	Y	Y
Start Date of Effort	SDT	Y	Y	Y	Y
End Date	EDT	Y	Y	Y	Y
Effort Security Classification Code	ECC	Y	Y	Y	Y
Effort Security Classification Add. Notice	ECA	Y	Y	Y	Y
Record Security Classification Code	RCC	Y	Y	Y	Y
Record Security Classification Add. Notice	RCA	Y	Y	Y	Y
Classification Authority	CLA	N	Y	N	N
Regrading Code	RGC	Y	Y	N	Y
Regrading Date	RGD	Y	Y	N	Y
Regrading Event	RE	Y	Y	N	Y
Distribution Code	DC	Y	Y	Y	Y
Distribution Reason	DR	Y	Y	Y	Y
Title (Unclassified) TI5, TIA	TI	Y	Y	N	Y
Subordinate Record Indicator	SRI	Y	Y	N	Y
Linking Accession Number	LAN	Y	Y	N	N
Local Control (Work Unit) Number	LCN	Y	Y	Y	Y
Search Data	SCH	Y	Y	N	Y
DoD Subject Categories, FG1, FG2, FG3	FG	Y	Y	Y	Y
Taxonomy Code, MC, FC, TE	TAC	N	Y	N	N
Mission Area Code, MC1, MC2, MC3	MC	Y	Y	N	N
Function Code, FC1, FC2, FC3	FC	Y	Y	N	N
Technology Code, TE1, TE2, TE3	TE	Y	Y	N	N
Responsible Activity	RA	N	Y	N	N
Responsible Org. Source Code	RSC	Y	Y	N	Y
Responsible Org. Activity Name	RAN	N	Y	N	N
Responsible Org. Specific Component Name	RCN	N	Y	Y	Y
Responsible Org. Location	RL	N	Y	N	N

FIELD IDENTIFICATION CODES

WORK UNIT SUMMARIES

Element Name	Mnemonic	Search	Display	Qualify	Sort
Responsible Org. Location - City	RLC	Y	Y	N	N
Responsible Org. Location - State/Country	RLS	Y	Y	N	N
Responsible Org. Location - Zip Code	RLZ	Y	Y	N	N
Responsible Org. Location - Geopolitical Code	RLG	Y	Y	Y	Y
Responsible Org. Resp. Individual Name	RIN	Y	Y	N	Y
Responsible Org. Resp. Indv. Office Symbol & Code	RIO	Y	Y	N	Y
Responsible Org. Resp. Commercial Phone Number	RIP	N	Y	N	N
Responsible Org. Resp. Indv. DSN Number	RIA	N	Y	N	N
Performing Activity	PA	N	Y	N	N
Performing Org. Source Code	SC	Y	Y	N	Y
Performing Org. Activity Name	POA	N	Y	N	N
Perf. Org. Specific Component Name or Office Symbol	POC	N	Y	Y	Y
Performing Org. Location	PL	N	Y	N	N
Performing Org. Location - City	PLC	Y	Y	N	N
Performing Org. Location - State/Country	SCC	Y	Y	N	N
Performing Org. Location - Zip Code	PLZ	Y	Y	N	N
Performing Org. Location - Geopolitical Code	GC	Y	Y	Y	Y
Performing Org. - Type Code	OT	Y	Y	N	N
Entity Code (Data not yet available)	ENT	Y	Y	Y	Y
Performing Org. Principal Investigator Name	AU	Y	Y	N	Y
Performing Org. Prin. Invest. Office Symbol/Code	PIO	Y	Y	N	Y
Performing Org. Prin. Invest. Commercial Phone No.	PIP	N	Y	N	N
Performing Org. Prin. Invest. DSN Number	PIA	N	Y	N	N
Performing Org. Assoc. Invest. Name	P2N	Y	Y	N	N
Primary Funding Data - Primary PE Number	PEP	Y	Y	Y	Y
Funding Data - Primary Project No.	PJP	Y	Y	N	N
Funding Data - Primary Task No.	TNP	Y	Y	N	N
Primary Funding Data - Fiscal Year of Funding	FY1	Y	Y	N	N
Funding Data - Primary Dollar Amount	FD1	N	Y	Y	N
Primary Funding Data - Work Years	FW1	N	Y	Y	N
Funding Data - First Contributing PE No.	PE1	Y	Y	Y	Y
Funding Data - First Contributing Project No.	PJ1	Y	Y	N	N
Funding Data - First Contributing Task No.	TN1	Y	Y	N	N
First Contributing Data - FY of Funding	FFY	Y	Y	N	N
Funding Data - First Contributing Dollar Amount	FDA	N	Y	Y	N
First Contributing Funding Data - Work Years	FDW	N	Y	Y	N

FIELD IDENTIFICATION CODES
WORK UNIT SUMMARIES

Element Name	Mnemonic	Search	Display	Qualify	Sort
Funding Data - Second Contributing PE No.	PE2	Y	Y	N	N
Funding Data - Second Contributing Project Number	PJ2	Y	Y	N	N
Funding Data - Second Contributing Task Number	TN2	Y	Y	N	N
Second Contributing Data - FY of Funding	FFY	Y	Y	N	N
Funding Data - Second Contributing Dollar Amount	FDA	N	Y	Y	N
Second Contributing Funding Data - Work Years	FDW	N	Y	Y	N
Funding Rollup Indicator	FRI	Y	Y	N	N
Contract/Grant/Transfer Number	CT	Y	Y	N	Y
Contract/Grant Effective Date	CED	Y	Y	Y	Y
Contract/Grant Expiration Date	CEX	Y	Y	Y	Y
Contract/Grant Face Value	CFV	N	Y	Y	N
Contract/Grant Cumulative to Date Total	TOT	N	Y	Y	N
Keywords (Unclassified)	KW	Y	Y	N	N
Objective Classification Code	OCC	N	Y	N	N
Objective	OBJ	Y	Y	Y	N
Approach Classification Code	APC	N	Y	N	N
Approach	APP	Y	Y	Y	N
Progress - Class. Code of Entry	PGC	N	Y	Y	N
Progress (May Be Classified)	PRG	Y	Y	Y	N
Product Set Number	PDN	N	Y	N	N
Product Title Classification Code	PCC	N	Y	Y	N
Product Title	PIT	Y	Y	N	N
Product ID/Report Number	PIN	Y	Y	N	N
Product AD Number	PAN	Y	Y	N	N
Product Indicator	PI	Y	Y	N	N
Domestic Technology Transfer (Civ. Applicability)	DTT	Y	Y	N	Y
Studies and Analysis Categories	SAC	Y	Y	N	Y
Special Study Subjects	SSS	Y	Y	N	Y
Activity Code	ANA	Y	Y	Y	Y
Primary Project Serial Number	PSN	Y	Y	N	Y
International Sources Considered	FIC	N	Y	Y	Y
Processing Date	PD	Y	Y	Y	Y
Receipt Date	RCD	Y	Y	N	Y
Descriptors Class. Code Overall	DEC	Y	Y	Y	N
Descriptors - Item	DE	Y	Y	N	N
Thrust Indicator, TH1	THR	Y	Y	N	N

Element Name	Mnemonic	Search	Display	Qualify	Sort
Subject Terms (Descriptors, Keywords, Title, and Identifiers)	SUB	Y	N	N	N
Narrative (Title, Approach, Objective, and Progress)	NAR	Y	Y	N	N

FIELD IDENTIFICATION CODES

WORK UNIT SUMMARIES

(Sorted by Mnemonic)

Element Name	Mnemonic	Search	Display	Qualify	Sort
Agency Accession Number	AN	N	Y	N	Y
Agency Accession Number - Sequence Number	AN	N	Y	N	Y
Activity Code	ANA	Y	Y	Y	Y
Agency Accession Number - Agency Digraph	AND	Y	N	N	N
Approach Classification Code	APC	N	Y	N	N
Approach	APP	Y	Y	Y	N
Performing Org. Principal Investigator Name	AU	Y	Y	N	Y
Contract/Grant Effective Date	CED	Y	Y	Y	Y
Contract/Grant Expiration Date	CEX	Y	Y	Y	Y
Contract/Grant Face Value	CFV	N	Y	Y	N
Classification Authority	CLA	N	Y	N	N
Contract/Grant/Transfer Number	CT	Y	Y	N	Y
Distribution Code	DC	Y	Y	Y	Y
Descriptors - Item	DE	Y	Y	N	N
Descriptors Class. Code Overall	DEC	Y	Y	Y	N
Distribution Reason	DR	Y	Y	Y	Y
Domestic Technology Transfer (Civ. Applicability)	DTT	Y	Y	N	Y
Effort Security Classification Add. Notice	ECA	Y	Y	Y	Y
Effort Security Classification Code	ECC	Y	Y	Y	Y
End Date	EDT	Y	Y	Y	Y
Entity Code (Data not yet available)	ENT	Y	Y	Y	Y
Function Code, FC1, FC2, FC3	FC	Y	Y	N	N
Funding Data - Primary Dollar Amount	FD1	N	Y	Y	N
Funding Data - First Contributing Dollar Amount	FDA	N	Y	Y	N
Funding Data - Second Contributing Dollar Amount	FDA	N	Y	Y	N
First Contributing Funding Data - Work Years	FDW	N	Y	Y	N
Second Contributing Funding Data - Work Years	FDW	N	Y	Y	N
First Contributing Data - FY of Funding	FFY	Y	Y	N	N
Second Contributing Data - FY of Funding	FFY	Y	Y	N	N
DoD Subject Categories, FG1, FG2, FG3	FG	Y	Y	Y	Y
International Sources Considered	FIC	N	Y	Y	Y
Funding Rollup Indicator	FRI	Y	Y	N	N
Primary Funding Data - Work Years	FW1	N	Y	Y	N
Primary Funding Data - Fiscal Year of Funding	FY1	Y	Y	N	N
Performing Org. Location - Geopolitical Code	GC	Y	Y	Y	Y
Keywords (Unclassified)	KW	Y	Y	N	N

FIELD IDENTIFICATION CODES

WORK UNIT SUMMARIES

Element Name	Mnemonic	Search	Display	Qualify	Sort
Linking Accession Number	LAN	Y	Y	N	N
Local Control (Work Unit) Number	LCN	Y	Y	Y	Y
Mission Area Code, MC1, MC2, MC3	MC	Y	Y	N	N
Narrative (Title, Approach, Objective, and Progress)	NAR	Y	Y	N	N
Objective	OBJ	Y	Y	Y	N
Objective Classification Code	OCC	N	Y	N	N
Performing Org. - Type Code	OT	Y	Y	N	N
Performing Org. Assoc. Invest. Name	P2N	Y	Y	N	N
Performing Activity	PA	N	Y	N	N
Product AD Number	PAN	Y	Y	N	N
Product Title Classification Code	PCC	N	Y	Y	N
Processing Date	PD	Y	Y	Y	Y
Product Set Number	PDN	N	Y	N	N
Funding Data - First Contributing PE No.	PE1	Y	Y	Y	Y
Funding Data - Second Contributing PE No.	PE2	Y	Y	N	N
Primary Funding Data - Primary PE Number	PEP	Y	Y	Y	Y
Progress - Class. Code of Entry	PGC	N	Y	Y	N
Product Indicator	PI	Y	Y	N	N
Performing Org. Prin. Invest. DSN Number	PIA	N	Y	N	N
Product ID/Report Number	PIN	Y	Y	N	N
Performing Org. Prin. Invest. Office Symbol/Code	PIO	Y	Y	N	Y
Performing Org. Prin. Invest. Commercial Phone No.	PIP	N	Y	N	N
Product Title	PIT	Y	Y	N	N
Funding Data - First Contributing Project No.	PJ1	Y	Y	N	N
Funding Data - Second Contributing Project Number	PJ2	Y	Y	N	N
Funding Data - Primary Project No.	PJP	Y	Y	N	N
Performing Org. Location	PL	N	Y	N	N
Performing Org. Location - City	PLC	Y	Y	N	N
Performing Org. Location - Zip Code	PLZ	Y	Y	N	N
Performance Method	PM	Y	Y	Y	Y
Performing Org. Activity Name	POA	N	Y	N	N
Perf. Org. Specific Component Name or Office Symbol	POC	N	Y	Y	Y
Date of Preceding Summary	PRD	Y	Y	Y	Y
Progress (May Be Classified)	PRG	Y	Y	Y	N
Primary Project Serial Number	PSN	Y	Y	N	Y
Responsible Activity	RA	N	Y	N	N

FIELD IDENTIFICATION CODES
WORK UNIT SUMMARIES

Element Name	Mnemonic	Search	Display	Qualify	Sort
Responsible Org. Activity Name	RAN	N	Y	N	N
Record Security Classification Add. Notice	RCA	Y	Y	Y	Y
Record Security Classification Code	RCC	Y	Y	Y	Y
Receipt Date	RCD	Y	Y	N	Y
Responsible Org. Specific Component Name	RCN	N	Y	Y	Y
Date of Summary	RD	Y	Y	Y	Y
Regrading Event	RE	Y	Y	N	Y
Regrading Code	RGC	Y	Y	N	Y
Regrading Date	RGD	Y	Y	N	Y
Responsible Org. Resp. Indv. DSN Number	RIA	N	Y	N	N
Responsible Org. Resp. Individual Name	RIN	Y	Y	N	Y
Responsible Org. Resp. Indv. Office Symbol & Code	RIO	Y	Y	N	Y
Responsible Org. Resp. Commercial Phone Number	RIP	N	Y	N	N
Responsible Org. Location	RL	N	Y	N	N
Responsible Org. Location - City	RLC	Y	Y	N	N
Responsible Org. Location - Geopolitical Code	RLG	Y	Y	Y	Y
Responsible Org. Location - State/Country	RLS	Y	Y	N	N
Responsible Org. Location - Zip Code	RLZ	Y	Y	N	N
Responsible Org. Source Code	RSC	Y	Y	N	Y
Studies and Analysis Categories	SAC	Y	Y	N	Y
Performing Org. Source Code	SC	Y	Y	N	Y
Performing Org. Location - State/Country	SCC	Y	Y	N	N
Search Data	SCH	Y	Y	N	Y
Start Date of Effort	SDT	Y	Y	Y	Y
Status of Effort	SE	Y	Y	Y	N
Performance Type	SI	Y	Y	N	N
Subordinate Record Indicator	SRI	Y	Y	N	Y
Special Study Subjects	SSS	Y	Y	N	Y
Subject Terms (Descriptors, Keywords, Title, and Identifiers)	SUB	Y	N	N	N
Taxonomy Code, MC, FC, TE	TAC	N	Y	N	N
Technology Code, TE1, TE2, TE3	TE	Y	Y	N	N
Thrust Indicator, TH1	THR	Y	Y	N	N
Title (Unclassified) TI5, TIA	TI	Y	Y	N	Y
Funding Data - First Contributing Task No.	TN1	Y	Y	N	N
Funding Data - Second Contributing Task Number	TN2	Y	Y	N	N
Funding Data - Primary Task No.	TNP	Y	Y	N	N

Element Name	Mnemonic	Search	Display	Qualify	Sort
Contract/Grant Cumulative to Date Total	TOT	N	Y	Y	N
Transaction Type	TT	Y	Y	N	N

FIELD IDENTIFICATION CODES

INDEPENDENT RESEARCH & DEVELOPMENT

(Sorted by Data Element Numbers)

Element Name	Mnemonic	Search	Display	Qualify	Sort
Accession Number	AC	N	Y	Y	Y
Fiscal Year	ANF	Y	N	N	N
Transaction Type	TT	Y	Y	Y	Y
Plan Fiscal Years	TPY	Y	Y	Y	Y
Plan Fiscal YR1	TP1	N	Y	Y	Y
Plan Fiscal YR2	TP2	N	Y	Y	Y
Report Date (YYMMDD)	RD	Y	Y	Y	Y
Report Type	RT	Y	Y	Y	Y
Project Number	PJ	Y	Y	Y	Y
Project Title					
Unclassified Full Text (Single Word Title Search)	TI	Y	Y	N	Y
Key Algorithm (1,4,3,2,2)	TIA	Y	N	N	N
First 5 Words	TI5	Y	N	N	N
Performing Organization (PO)					
PO Name (Major)	OEM	N	Y	N	Y
PO Name (Intermediate)	OEI	N	Y	N	Y
PO Name (Lowest)	OEL	N	Y	N	Y
PO Street Address	OSA	N	Y	N	Y
PO City	OSC	N	Y	N	Y
PO State/Country	OCS	N	Y	N	N
PO Zip Code	OZP	N	Y	N	Y
PO Source Code	SC	Y	Y	Y	Y
PO Geopolitical Code	GC	Y	Y	Y	Y
Plan Focal Point Name	FP	Y	Y	N	N
Plan Focal Point Phone	FPT	Y	Y	N	N
Plan Volume & Page Number	PVC	N	Y	N	Y
Work Category	RCT	Y	Y	Y	Y
DoD Subject Categories	FG	Y	Y	Y	N
DoD Subject Cat 1	FG1	Y	Y	Y	Y
DoD Subject Cat 2	FG2	N	Y	Y	Y
DoD Subject Cat 3	FG3	N	Y	Y	Y
Project Start Date (YYMM)	SDT	Y	Y	Y	Y
Project End Date (YYMM)	EDT	Y	Y	Y	Y
Project Expenditures	EX	N	Y	N	N
Project Exp Prior YR1	EX1	Y	Y	Y	Y
Project Exp Prior YR2	EX2	Y	Y	Y	Y

FIELD IDENTIFICATION CODES
INDEPENDENT RESEARCH & DEVELOPMENT

(Sorted by Data Element Numbers)

Element Name	Mnemonic	Search	Display	Qualify	Sort
Accession Number	AC	N	Y	Y	Y
Fiscal Year	ANF	Y	N	N	N
Transaction Type	TT	Y	Y	Y	Y
Plan Fiscal Years	TPY	Y	Y	Y	Y
Plan Fiscal YR1	TP1	N	Y	Y	Y
Plan Fiscal YR2	TP2	N	Y	Y	Y
Report Date (YYMMDD)	RD	Y	Y	Y	Y
Report Type	RT	Y	Y	Y	Y
Project Number	PJ	Y	Y	Y	Y
Project Title					
Unclassified Full Text (Single Word Title Search)	TI	Y	Y	N	Y
Key Algorithm (1,4,3,2,2)	TIA	Y	N	N	N
First 5 Words	TI5	Y	N	N	N
Performing Organization (PO)					
PO Name (Major)	OEM	N	Y	N	Y
PO Name (Intermediate)	OEI	N	Y	N	Y
PO Name (Lowest)	OEL	N	Y	N	Y
PO Street Address	OSA	N	Y	N	Y
PO City	OSC	N	Y	N	Y
PO State/Country	OCS	N	Y	N	N
PO Zip Code	OZP	N	Y	N	Y
PO Source Code	SC	Y	Y	Y	Y
PO Geopolitical Code	GC	Y	Y	Y	Y
Plan Focal Point Name	FP	Y	Y	N	N
Plan Focal Point Phone	FPT	Y	Y	N	N
Plan Volume & Page Number	PVC	N	Y	N	Y
Work Category	RCT	Y	Y	Y	Y
DoD Subject Categories	FG	Y	Y	Y	N
DoD Subject Cat 1	FG1	Y	Y	Y	Y
DoD Subject Cat 2	FG2	N	Y	Y	Y
DoD Subject Cat 3	FG3	N	Y	Y	Y
Project Start Date (YYMM)	SDT	Y	Y	Y	Y
Project End Date (YYMM)	EDT	Y	Y	Y	Y
Project Expenditures	EX	N	Y	N	N
Project Exp Prior YR1	EX1	Y	Y	Y	Y
Project Exp Prior YR2	EX2	Y	Y	Y	Y

FIELD IDENTIFICATION CODES

INDEPENDENT RESEARCH & DEVELOPMENT

Element Name	Mnemonic	Search	Display	Qualify	Sort
Project Exp Current YR	EX3	Y	Y	Y	Y
Project Exp Next YR	EX4	Y	Y	Y	Y
Project Workyears					
Project Manyears Prior	EST	N	Y	Y	Y
Project Manyears Current	CUM	N	Y	Y	Y
Project Sensitivity Code	DSC	Y	Y	Y	Y
Missions Area Codes	MC	Y	Y	Y	Y
Mission Area Code 1	MC1	Y	Y	Y	Y
Mission Area Code 2	MC2	N	Y	Y	Y
Mission Area Code 3	MC3	N	Y	Y	Y
Function Codes	FC	Y	Y	Y	Y
Function Code 1	FC1	Y	Y	Y	Y
Function Code 2	FC2	N	Y	Y	Y
Function Code 3	FC3	N	Y	Y	Y
Technology Category Codes	TE	Y	Y	Y	Y
Technology Category Code 1	TE1	Y	Y	Y	Y
Technology Category Code 2	TE2	N	Y	Y	Y
Technology Category Code 3	TE3	N	Y	Y	Y
Technical Contact Name	AU	Y	Y	N	Y
Technical Contact Phone	TCT	N	Y	N	N
Related Projects Current FY	PCA	Y	Y	Y	N
Rel. Project Current FY1	PC1	N	Y	Y	Y
Rel. Project Current FY2	PC2	N	Y	Y	Y
Rel. Project Current FY3	PC3	N	Y	Y	Y
Related Projects Previous FY	PPA	Y	Y	Y	N
Rel. Project Prior FY1	PP1	N	Y	Y	Y
Rel. Project Prior FY2	PP2	N	Y	Y	Y
Rel. Project Prior FY3	PP3	N	Y	Y	Y
Related Documentation	RED	Y	Y	N	N
Interested DoD Organizations	REO	N	Y	N	N
Potential Military Relationship	PMR	Y	Y	Y	Y
Need	NED	Y	Y	N	N
Objective & Schedule	OBJ	Y	Y	N	N
Approach	APP	Y	Y	N	N
Progress	PRG	Y	Y	N	N
Subject (DE,ID,KW,TI)	SUB	Y	N	N	N

FIELD IDENTIFICATION CODES

INDEPENDENT RESEARCH & DEVELOPMENT

Element Name	Mnemonic	Search	Display	Qualify	Sort
Descriptors (Index Terms)	DE	Y	Y	N	N
Identifiers	ID	Y	Y	N	N
Keywords	KW	Y	Y	N	N
Record Create Date (YYMMDD)	CRD	Y	Y	Y	Y
Processing Date (YYMMDD)	PD	Y	Y	Y	Y

APPENDIX 4 - DISPLAY FORMATS TECHNICAL REPORT

Format Number 1F

*3 - ENTRY CLASSIFICATION:
1 - AD NUMBER:
48 - SBI SITE HOLDING SYMBOL:
2 - FIELDS AND GROUPS:
3 - ENTRY CLASSIFICATION:
5 - CORPORATE AUTHOR:
6 - UNCLASSIFIED TITLE:
7 - CLASSIFIED TITLE:
8 - TITLE CLASSIFICATION:
9 - DESCRIPTIVE NOTE:
10 - PERSONAL AUTHOR:
11 - REPORT DATE:
12 - PAGINATION: MEDIA COST:
14 - REPORT NUMBER:
15 - CONTRACT NUMBER:
16 - PROJECT NUMBER:
17 - TASK NUMBER:
18 - MONITOR ACRONYM:
19 - MONITOR SERIES:
20 - REPORT CLASSIFICATION:
21 - SUPPLEMENTARY NOTE:
22 - LIMITATIONS (ALPHA):
23 - DESCRIPTORS:
24 - DESCRIPTOR CLASSIFICATION:
25 - IDENTIFIERS:
26 - IDENTIFIER CLASSIFICATION:
27 - ABSTRACT:
28 - ABSTRACT CLASSIFICATION:
29 - INITIAL INVENTORY:
30 - ANNOTATION:
31 - SPECIAL INDICATOR:
32 - REGRADE CATEGORY:
33 - LIMITATION CODES:

**This field will always appear first if any classified field displayed*

Format Number 1F *continued*

34 - SOURCE SERIES:
35 - SOURCE CODE:
36 - DOCUMENT LOCATION:
37 - CLASSIFICATION AUTHORITY:
38 - DECLASSIFICATION DATE:
39 - DOWNGRADING DATE:
40 - GEOPOLITICAL CODE:
41 - TYPE CODE:
42 - IAC ACCESSION NUMBER:
43 - IAC DOCUMENT TYPE:
44 - IAC SUBJECT TERMS:
49 - AUTHORITY FOR CHANGE:

Format Number 2F

*3 - ENTRY CLASSIFICATION:
1 - AD NUMBER:
2 - FIELDS AND GROUPS:
5 - CORPORATE AUTHOR:
6 - UNCLASSIFIED TITLE:
9 - DESCRIPTIVE NOTE:
10 - PERSONAL AUTHOR:
11 - REPORT DATE:
12 - PAGINATION: MEDIA COST:
14 - REPORT NUMBER:
15 - CONTRACT NUMBER:
16 - PROJECT NUMBER:
17 - TASK NUMBER:
18 - MONITOR ACRONYM:
19 - MONITOR SERIES:
20 - REPORT CLASSIFICATION:
21 - SUPPLEMENTARY NOTE:
22 - LIMITATIONS (ALPHA):
23 - DESCRIPTORS:
24 - DESCRIPTOR CLASSIFICATION:
25 - IDENTIFIERS:
26 - IDENTIFIER CLASSIFICATION:

**This field will always appear first if any classified field displayed.*

Format Number 3F

*3 - ENTRY CLASSIFICATION:
1 - AD NUMBER:
2 - FIELDS AND GROUPS:
8 - TITLE CLASSIFICATION:
20 - REPORT CLASSIFICATION:
22 - LIMITATIONS (ALPHA):
24 - DESCRIPTOR CLASSIFICATION:
26 - IDENTIFIER CLASSIFICATION:
27 - ABSTRACT:
28 - ABSTRACT CLASSIFICATION:
31 - SPECIAL INDICATOR:
32 - REGRADE CATEGORY:
33 - LIMITATION CODES:
36 - DOCUMENT LOCATION:
42 - IAC ACCESSION NUMBER:
43 - IAC DOCUMENT TYPE:
44 - IAC SUBJECT TERMS:

Format Number 4F

*3 - ENTRY CLASSIFICATION:
1 - AD NUMBER:
2 - FIELDS AND GROUPS:
5 - CORPORATE AUTHOR:
20 - REPORT CLASSIFICATION:
22 - LIMITATIONS (ALPHA):
31 - SPECIAL INDICATOR:
42 - IAC ACCESSION NUMBER:
43 - IAC DOCUMENT TYPE:
44 - IAC SUBJECT TERMS:

**This field will always appear first if any classified field displayed.*

Format Number 6F

*3 - ENTRY CLASSIFICATION:
1 - AD NUMBER:
2 - FIELDS AND GROUPS:
6 - UNCLASSIFIED TITLE:
23 - DESCRIPTORS
25 - IDENTIFIERS
27 - ABSTRACT
30 - ANNOTATION:

Format Number 7F

*3 - ENTRY CLASSIFICATION:
1 - AD NUMBER:
2 - FIELDS AND GROUPS:
5 - CORPORATE AUTHOR:
6 - UNCLASSIFIED TITLE:
9 - DESCRIPTIVE NOTE:
10 - PERSONAL AUTHORS:
11 - REPORT DATE:
12 - PAGINATION: MEDIA COST:
14 - REPORT DATE:
15 - CONTRACT NUMBER:
18 - MONITOR ACRONYM:
19 - MONITOR SERIES:
20 - REPORT CLASSIFICATION:
21 - SUPPLEMENTARY NOTE:
22 - LIMITATION (ALPHA):
33 - LIMITATION CODES:
49 - AUTHORITY FOR CHANGE:

**This field will always appear first if any classified field displayed.*

DISPLAY FORMAT
CURRENT TECHNICAL REPORT

Format Number 1F

1 - AD NUMBER:
5 - SOURCE NAME:
6 - UNCLASSIFIED TITLE:
9 - DESCRIPTIVE NOTE:
10 - PERSONAL AUTHOR:
11 - REPORT DATE:
14 - REPORT NUMBER:
15 - CONTRACT NUMBER:
18 - MONITOR ACRONYM:
19 - MONITOR SERIES:
20 - REPORT CLASSIFICATION:
21 - SUPPLEMENTARY NOTE:
22 - LIMITATION (ALPHA):
33 - LIMITATION CODES:
34 - SOURCE SERIES:
35 - SOURCE CODE:

DISPLAY FORMATS
WORK UNIT

Format Number 1F

--AN(1) - AGENCY ACCESSION NUMBER
--ANA(1A) - ACTIVITY CODE
--TT(2) - TRANSACTION TYPE
--SE(3) - STATUS OF EFFORT
--PM(4) - PERFORMANCE METHOD
--SI(5) - PERFORMANCE TYPE
--RD(6) - DATE OF SUMMARY:
--PRD(7) - DATE OF PRECEDING SUMMARY
--SDT(8) - START DATE OF EFFORT
--EDT(9) - END DATE
--ECC(10) - EFFORT SECURITY CLASSIFICATION CODE
--ECA(11) - EFFORT SECURITY CLASSIFICATION ADD. NOTICE
-*RCC(12) - RECORD SECURITY CLASSIFICATION CODE
--RCA(13) - RECORD SECURITY CLASSIFICATION ADD. NOTICE
--CLA(14) - CLASSIFICATION AUTHORITY
--RGC(15) - REGRADING CODE
--RGD(16) - REGRADING DATE
--RE(17) - REGRADING EVENT
--DC(18) - DISTRIBUTION CODE
--DR(19) - DISTRIBUTION REASON
--TI(20) - TITLE (UNCLASSIFIED)
--SRI(21) - SUBORDINATE RECORD INDICATOR
--LAN(22) - LINKING ACCESSION NUMBER
--LCN(23) - LOCAL CONTROL (WORK UNIT) NUMBER
--SCH(24) - SEARCH DATA
--FG(25) - DOD SUBJECT CATEGORIES
--TAC(26) - TAXONOMY CODES
--MC(26.1) - MISSION AREA CODE
--MC1(26.11) - FIRST MISSION AREA CODE
--MC2(26.12) - SECOND MISSION AREA CODE
--MC3(26.13) - THIRD MISSION AREA CODE
--FC(26.2) - FUNCTION CODE

**This field will always appear first if any classified field displayed.*

Format Number 1F *continued*

--FC1(26.21) - FIRST FUNCTION CODE
--FC2(26.22) - SECOND FUNCTION CODE
--FC3(26.23) - THIRD FUNCTION CODE
--TE(26.3) - TECHNOLOGY CODE
--TE1(26.31) - FIRST TECHNOLOGY CODE
--TE2(26.32) - SECOND TECHNOLOGY CODE
--TE3(26.33) - THIRD TECHNOLOGY CODE
--RSC(27) - RESPONSIBLE ORG. SOURCE CODE
--RAN(27.1) - RESPONSIBLE ORG. ACTIVITY NAME
--RCN(27.2) - RESP. ORG. SPECIFIC COMPONENT
--RLC(27.3A) - RESPONSIBLE ORGANIZATION CITY
--RLS(27.3B) - RESPONSIBLE ORGANIZATION STATE/ COUNTRY
--RLZ(27.3C) - RESPONSIBLE ORGANIZATION ZIP CODE
--RLG(27.3D) - RESPONSIBLE ORGANIZATION GEOPOLITICAL CODE
--RIN(27.4) - RESP. INDIV
--RIO(27.5) - RESP. INDIV. OFFICE SYMBOL & CODE
--RIP(27.6) - RESP. ORG. PHONE NUMBER
--RIA(27.7) - RESP. INDIV. DSN NUMBER
--SC(28) - PERFORMING ORG. SOURCE CODE
--POA(28.1) - PERFORMING ORG. ACTIVITY NAME
--POC(28.2) - PERF. ORG. SPECIFIC COMPONENT
--PLC(28.3A) - PERFORMING ORGANIZATION CITY
--SCC(28.3B) - PERFORMING ORG. LOCATION - STATE/ COUNTRY
--PLZ(28.3C) - PERFORMING ORG. LOCATION - ZIP CODE
--GC(28.3D) - PERFORMING ORG. LOCATION - GEOPOLITICAL CODE
--OT(28.3E) - PERFORMING ORGANIZATION - TYPE CODE
--ENT(28.3F) - ENTITY TYPE CODE
--AU(28.4) - PRIN. INVESTIGATOR
--PIO(28.5) - PRIN. INVEST. OFFICE SYMBOL
--PIP(28.6) - PRIN. INVEST. PHONE NUMBER
--PIA(28.7) - PRIN. INVEST. DSN NUMBER
--P2N(28.8) - ASSOCIATE INVESTIGATORS
--PEP(30) - PRIM PE NBR
--PJP(30A) - PRIM PROJ NBR
--TNP(30B) - PRIM TASK NBR

Format Number 1F *continued*

--FFY(30C1) - PRIM FY1
--FDA(30C2) - PRIM AMOUNT 1
--FDW(30C3) - PRIM WORK YRS 1
--FFY(30D1) - PRIM FY2
--FDA(30D2) - PRIM AMOUNT 2
--FDW(30D3) - PRIM WORK YRS 2
--FFY(30E1) - PRIM FY3
--FDA(30E2) - PRIM AMOUNT 3
--FDW(30E3) - PRIM WORK YRS 3
--FFY(30F1) - PRIM FY4
--FDA(30F2) - PRIM AMOUNT 4
--FDW(30F3) - PRIM WORK YRS 4
--FFY(30G1) - PRIM FY5
--FDA(30G2) - PRIM AMOUNT 5
--FDW(30G3) - PRIM WORK YRS 5
--PE1(31) - 1ST CONT PE NBR
--PJ1(31A) - 1ST CONT PROJ NBR
--TN1(31B) - 1ST CONT TASK NBR
--FFY(31C1) - 1ST CONT FY1
--FDA(31C2) - 1ST CONT AMOUNT 1
--FDW(31C3) - 1ST CONT WORK YRS 1
--FFY(31D1) - 1ST CONT FY2
--FDA(31D2) - 1ST CONT AMOUNT 2
--FDW(31D3) - 1ST CONT WORK YRS 2
--FFY(31E1) - 1ST CONT FY3
--FDA(31E2) - 1ST CONT AMOUNT 3
--FDW(31E3) - 1ST CONT WORK YRS 3
--FFY(31F1) - 1ST CONT FY4
--FDA(31F2) - 1ST CONT AMOUNT 4
--FDW(31F3) - 1ST CONT WORK YRS 4
--FFY(31G1) - 1ST CONT FY5: 00
--FDA(31G2) - 1ST CONT AMOUNT 5
--FDW(31G3) - 1ST CONT WORK YRS 5
--PE2(32) - 2ND CONT PE NBR
--PJ2(32A) - 2ND CONT PROJ NBR
--TN2(32B) - 2ND CONT TASK NBR
--FFY(32C1) - 2ND CONT FY1
--FDA(32C2) - 2ND CONT AMOUNT 1
--FDW(32C3) - 2ND CONT WORK YRS 1

Format Number 1F *continued*

--FFY(32D1) - 2ND CONT FY2: 00
--FDA(32D2) - 2ND CONT AMOUNT 2
--FDW(32D3) - 2ND CONT WORK YRS 2
--FFY(32E1) - 2ND CONT FY3: 00
--FDA(32E2) - 2ND CONT AMOUNT 3
--FDW(32E3) - 2ND CONT WORK YRS 3
--FFY(32F1) - 2ND CONT FY4
--FDA(32F2) - 2ND CONT AMOUNT 4
--FDW(32F3) - 2ND CONT WORK YRS 4
--FFY(32G1) - 2ND CONT FY5
--FDA(32G2) - 2ND CONT AMOUNT 5
--FDW(32G3) - 2ND CONT WORK YRS 5
--FRI(33C) - FUNDING ROLLUP INDICATOR FY1
--FRI(33D) - FUNDING ROLLUP INDICATOR FY2
--FRI(33E) - FUNDING ROLLUP INDICATOR FY3
--FRI(33F) - FUNDING ROLLUP INDICATOR FY4
--FRI(33G) - FUNDING ROLLUP INDICATOR FY5
--CT(34) - CONTRACT/GRANT TRANSFER NUMBER
--CED(34.1) - CONTRACT/GRANT EFFECTIVE DATE
--CEX(34.2) - CONTRACT/GRANT EXPIRATION DATE
--CFV(34.3) - CONTRACT/GRANT FACE VALUE
--TOT(34.4) - CONTRACT/GRANT CUM TOTAL
--KW(35) - KEYWORDS
--OCC(36) - OBJECTIVE CLASSIFICATION CODE
--OBJ(36.1) - OBJECTIVE
--APC(37) - APPROACH CLASSIFICATION CODE
--APP(37.1) - APPROACH
--PGC(38) - PROGRESS CLASS CODE
--PRG(38.1) - PROGRESS
--PDN(39) - PRODUCTS
--PDN(39) - PRODUCT SET NUMBER
--PCC(39.1) - PRODUCT TITLE CLASSIFICATION CODE
--PIT(39.2) - PRODUCT TITLE
--PIN(39.3) - PRODUCT ID/RPT NO
--PAN(39.4) - PRODUCT AD NUMBER
--PI(39.5) - PRODUCT INDICATOR
--PDN(39) - PRODUCT SET NUMBER
--PCC(39.1) - PRODUCT TITLE CLASSIFICATION CODE
--PIT(39.2) - PRODUCT TITLE

Format Number 1F *continued*

--PIN(39.3) - PRODUCT ID/RPT NO
--PAN(39.4) - PRODUCT AD NUMBER
--PDN(39) - PRODUCT SET NUMBER
--PCC(39.1) - PRODUCT TITLE CLASSIFICATION CODE
--PIT(39.2) - PRODUCT TITLE
--PIN(39.3) - PRODUCT ID/RPT NO
--PAN(39.4) - PRODUCT AD NUMBER
--PDN(39) - PRODUCT SET NUMBER
--PCC(39.1) - PRODUCT TITLE CLASSIFICATION CODE
--PIT(39.2) - PRODUCT TITLE
--PIN(39.3) - PRODUCT ID/RPT NO
--PAN(39.4) - PRODUCT AD NUMBER
--PDN(39) - PRODUCT SET NUMBER
--PCC(39.1) - PRODUCT TITLE CLASSIFICATION CODE
--PIT(39.2) - PRODUCT TITLE
--PIN(39.3) - PRODUCT ID/RPT NO
--PAN(39.4) - PRODUCT AD NUMBER
--DTT(40) - DOMESTIC TECHNOLOGY TRANSFER
--SAC(41) - STUDIES AND ANALYSIS CATEGORIES
--SSS(42) - SPECIAL STUDY SUBJECTS
--PSN(44) - PRIMARY PROJECT SERIAL NUMBER
--FIC(45) - INTERNATIONAL SOURCES CONSIDERED
--PD(46) - PROCESSING DATE
--RCD(47) - RECEIPT DATE
--DEC(48) - DESCRIPTORS CLASS. CODE OVERALL
--DE(48.1) - DESCRIPTORS
--THR(49) - THRUST INDICATORS

Format Number 2F

-*RCC(12) - RECORD SECURITY CLASSIFICATION CODE
--AN(1) - AGENCY ACCESSION NUMBER
--TI(20) - TITLE (UNCLASSIFIED)
--FG(25) - DOD SUBJECT CATEGORIES
--KW(35) - KEYWORDS
--DEC(48) - DESCRIPTORS CLASS. CODE OVERALL
--DE(48.1) - DESCRIPTORS

**This field will always appear first if any classified field displayed.*

Format Number 3F

-*RCC(12) - RECORD SECURITY CLASSIFICATION CODE
--AN(1) - AGENCY ACCESSION NUMBER
--TI(20) - TITLE (UNCLASSIFIED)
--SE(3) - STATUS OF EFFORT
--TT(2) - TRANSACTION TYPE
--PM(4) - PERFORMANCE METHOD
--POA(28.1) - PERFORMING ORG. ACTIVITY NAME
--OCC(36) - OBJECTIVE CLASSIFICATION CODE
--OBJ(36.1) - OBJECTIVE
--APC(37) - APPROACH CLASSIFICATION CODE
--APP(37.1) - APPROACH
--PGC(38) - PROGRESS CLASS CODE
--PRG(38.1) - PROGRESS

Format Number 4F

-*RCC(12) - RECORD SECURITY CLASSIFICATION CODE
--AN(1) - AGENCY ACCESSION NUMBER
--TI(20) - TITLE (UNCLASSIFIED)
--SE(3) - STATUS OF EFFORT
--TT(2) - TRANSACTION TYPE
--PM(4) - PERFORMANCE METHOD
--RD(6) - DATE OF SUMMARY
--SDT(8) - START DATE OF EFFORT
--EDT(9) - END DATE
--POA(28.1) - PERFORMING ORG. ACTIVITY NAME
--RAN(27.1) - RESPONSIBLE ORG. ACTIVITY NAME
--PEP(30) - PRIM PE NBR
--PJP(30A) - PRIM PROJ NBR
--TNP(30B) - PRIM TASK NBR
--FFY(30C1) - PRIM FY1
--FDA(30C2) - PRIM AMOUNT 1
--FDW(30C3) - PRIM WORK YRS 1
--FFY(30D1) - PRIM FY2
--FDA(30D2) - PRIM AMOUNT 2
--FDW(30D3) - PRIM WORK YRS 2

**This field will always appear first if any classified field displayed.*

Format Number 5F

-*RCC(12) - RECORD SECURITY CLASSIFICATION CODE
--AN(1) - AGENCY ACCESSION NUMBER
--TI(20) - TITLE (UNCLASSIFIED)
--SE(3) - STATUS OF EFFORT
--TT(2) - TRANSACTION TYPE
--PM(4) - PERFORMANCE METHOD
--RD(6) - DATE OF SUMMARY
--SDT(8) - START DATE OF EFFORT
--EDT(9) - END DATE
--LCN(23) - LOCAL CONTROL (WORK UNIT) NUMBER
--ECC(10) - EFFORT SECURITY CLASSIFICATION CODE
--DC(18) - DISTRIBUTION CODE
--DR(19) - DISTRIBUTION REASON
--FG(25) - DOD SUBJECT CATEGORIES
--DTT(40) - DOMESTIC TECHNOLOGY TRANSFER
--SC(28) - PERFORMING ORG. SOURCE CODE
--GC(28.3D) - PERFORMING ORG. LOCATION - GEOPOLITICAL CODE
--PLC(28.3A) - PERFORMING ORGANIZATION CITY
--SCC(28.3B) - PERFORMING ORG. LOCATION - STATE/ COUNTRY
--PLZ(28.3C) - PERFORMING ORG. LOCATION - ZIP CODE
--GC(28.3D) - PERFORMING ORG. LOCATION - GEOPOLITICAL CODE
--OT(28.3E) - PERFORMING ORGANIZATION - TYPE CODE
--AU(28.4) - PRIN. INVESTIGATOR
--RSC(27) - RESPONSIBLE ORG. SOURCE CODE
--RLG(27.3D) - RESPONSIBLE ORGANIZATION GEOPOLITICAL CODE
--RLC(27.3A) - RESPONSIBLE ORGANIZATION CITY
--RLS(27.3B) - RESPONSIBLE ORGANIZATION STATE/ COUNTRY
--RLG(27.3D) - RESPONSIBLE ORGANIZATION GEOPOLITICAL CODE
--RIN(27.4) - RESP. INDIV
--PEP(30) - PRIM PE NBR
--PJP(30A) - PRIM PROJ NBR

**This field will always appear first if any classified field displayed.*

Format Number 5F *continued*

--TNP(30B) - PRIM TASK NBR
--FFY(30C1) - PRIM FY1
--FDA(30C2) - PRIM AMOUNT 1
--FDW(30C3) - PRIM WORK YRS 1
--FFY(30D1) - PRIM FY2
--FDA(30D2) - PRIM AMOUNT 2
--FDW(30D3) - PRIM WORK YRS 2
--OBJ(36.1) - OBJECTIVE
--KW(35) - KEYWORDS
--DE(48.1) - DESCRIPTORS

Format Number 6F

-*RCC(12) - RECORD SECURITY CLASSIFICATION CODE
--AN(1) - AGENCY ACCESSION NUMBER
--TI(20) - TITLE (UNCLASSIFIED)
--FG(25) - DOD SUBJECT CATEGORIES
--KW(35) - KEYWORDS
--DE(48.1) - DESCRIPTORS
--OBJ(36.1) - OBJECTIVE
--PRG(38.1) - PROGRESS

**This field will always appear first if any classified field displayed*

DISPLAY FORMATS INDEPENDENT RESEARCH AND DEVELOPMENT

IR&D DATA ARE PROPRIETARY

- FURTHER RELEASE IS PROHIBITED

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--  INDEPENDENT R&D RECORDS ARE ONLY FOR THE OFFICIAL USE
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--  DISSEMINATION TO NON-DOD PERSONNEL AND ORGANIZATIONS.
--  (PER DOD 5100.66 AND DLAR 5230.3 ENCL 1 PARAGRAPH 3F).

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Format Number 1F

--AC(A) - ACCESSION NUMBER
--TPY(1) - TECH PLAN FISCAL YEARS
--RD(2) - REPORT DATE
--RT(3) - REPORT TYPE
--PJ(4) - PROJECT NUMBER
--TI(5) - PROJECT TITLE
--OEM(6A1) - MAJOR CORP ENTITY
--OEI(6A2) - INTER CORP ENTITY
--OSA(6A4) - ORG STREET ADDRESS
--OSC(6A5) - ORG CITY
--OCS(6A5) - ORG STATE/COUNTRY
--OZP(6A6) - ORG ZIP CODE
--SC(6B) - ORG SOURCE CODE
--GC(6D) - GEOPOLITICAL CODE (4 CHARS)
--FP(7A) - NAME OF TECH PLAN FOCAL POINT
--FPT(7B) - FOCAL POINT TELEPHONE NO.
--RCT(9) - CATEGORY
--FG1(10A) - SUBJECT FIELD/GROUP CODE 1
--FG2(10B) - SUBJECT FIELD/GROUP CODE 2
--FG3(10C) - SUBJECT FIELD/GROUP CODE 3
--SDT(11) - PROJECT START DATE
--EDT(12) - COMPLETION DATE

Format Number 1F *continued*

--EX2(13B) - PROJECT EXPENDITURE PRIOR YEAR 2
--EX1(13A) - PROJECT EXPENDITURE PRIOR YEAR 1
--EX3(13C) - PROJECT EXPENDITURE CURRENT YEARS
--EX4(13D) - PROJECT EXPENDITURE NEXT YEAR
--DSC(14) - PROJECT SENSITIVITY CODE
--MC1(15A1) - MISSION AREA CODE (1)
--MC2(15A2) - MISSION AREA CODE (2)
--MC3(15A3) - MISSION AREA CODE (3)
--FC1(15B1) - FUNCTION CODE (1)
--FC2(15B2) - FUNCTION CODE (2)
--FC3(15B3) - FUNCTION CODE (3)
--TE1(15C1) - TECHNOLOGY CATEGORIES CODE (1)
--TE2(15C2) - TECHNOLOGY CATEGORIES CODE (2)
--TE3(15C3) - TECHNOLOGY CATEGORIES CODE (3)
--AU(16A) - TECHNICAL CONTRACT
--TCT(16B) - TECH CONTACT TELEPHONE
--PC1(17A) - RELATED PROJECT (1) C-F-Y
--PC2(17B) - RELATED PROJECT (2) C-F-Y
--KW(19) - KEYWORDS
--RED(20A) - RELATED DOCUMENTS
--REO(20B) - RELATED DoD ORGANIZATIONS
--NED(21) - NEED
--OBJ(22) - OBJECTIVE
--APP(23) - APPROACH
--PRG(24) - PROGRESS
--DE(25) - INDEX TERMS
--CRD(30) - INITIAL RECORD CREATION DATE
--PD(31) - PROCESSING DATE

Format Number 2F

--AC(A) - ACCESSION NUMBER
--TI(5) - PROJECT TITLE
--FG1(10A) - SUBJECT FIELD/GROUP CODE 1
--FG2(10B) - SUBJECT FIELD/GROUP CODE 2
--FG3(10C) - SUBJECT FIELD/GROUP CODE 3
--KW(19) - KEYWORDS
--DE(25) - INDEX TERMS

Format Number 3F

--AC(A) - ACCESSION NUMBER
--TI(5) - PROJECT TITLE
--FG1(10A) - SUBJECT FIELD/GROUP CODE 1
--FG2(10B) - SUBJECT FIELD/GROUP CODE 2
--FG3(10C) - SUBJECT FIELD/GROUP CODE 3
--NED(21) - NEED
--OBJ(22) - OBJECTIVE
--APP(23) - APPROACH
--PRG(24) - PROGRESS

Format Number 4F

--AC(A) - ACCESSION NUMBER
--EX2(13B) - PROJECT EXPENDITURE PRIOR YEAR 1
--EX1(13A) - PROJECT EXPENDITURE PRIOR YEAR 2
--EX3(13C) - PROJECT EXPENDITURE CURRENT YEARS
--EX4(13D) - PROJECT EXPENDITURE NEXT YEAR

Format Number 6F

--AC(A) - ACCESSION NUMBER
--FG1(10A) - SUBJECT FIELD/GROUP CODE 1
--FG2(10B) - SUBJECT FIELD/GROUP CODE 2
--FG3(10C) - SUBJECT FIELD/GROUP CODE 3
--TI(5) - PROJECT TITLE
--KW(19) - KEYWORDS
--NED(21) - NEED
--OBJ(22) - OBJECTIVE
--APP(23) - APPROACH
--PRG(24) - PROGRESS

DESIGN YOUR OWN DISPLAY

If the selected formats displayed are unsuitable, selected data elements can be combined to create a special display. Key in the desired display field numbers, one per line, maximum of 21 fields. Terminate with END, one of the print mode subcommands (y, c, w, or x) and Transmit.

APPENDIX 5 - ORDER PARAMETERS

TECHNICAL REPORT

Search Control Number (Optional)	SCN:	6 alphanumeric characters; generated automatically if left blank.
*User Code (Optional)	UCO:	5-digits; terminal user code assigned if blank. Not displayed if user code is fixed for the site.
Contract Number (Required for Classified)	CNO:	Last 6 characters of active contract number.
Requester (Optional)	REQ:	18-character Maximum; enter as desired, Requester's name.
Deposit Account (Optional)	DAN:	5-digit number.
Override Code (In-House Use Only)		Enter Y.

* *Any valid DTIC user code may be entered; the order will then be sent directly to the site corresponding to the code used.*

NOTE: Dedicated sites use the tab key to move through the stubs when inputting the required data. Print, then transmit the entire screen after the necessary information has been entered. For Dial-Up sites, retype the stubs before entering the required data. On the line after your last stub entry, type END, and transmit. (Recommend that sites print and maintain a record of orders placed and system response/confirmations.)

LIMITED DOCUMENT

Accession Number	ADN:	8 or 9 alphanumeric characters, packed; only 1 accession number for each order.
User Code	UCO:	5 numeric digits; precede with zeros when necessary.

LIMITED DOCUMENT ***Continued***

Copy Type	CPY:	Enter HC for hardcopy (paper); MF for microfiche; or both, separated by a comma and packed (i.e., HC,MF).
Quantity of Copies	QTY:	Enter 1-99. Maximum desired order quantity is 99. If both hard copy and fiche are requested, enter two quantities separated by a comma and packed (i.e., 3,5).
Required for (Justification)	RQF:	Maximum of 1100 characters, including spaces and punctuation. Your justification statement will be used to determine whether the document will be released to you.
Requester Name	REQ:	Maximum of 34 alphanumeric characters. It is helpful to include both the name and the phone number of the requester. This enables DTIC or the releasing agency to contact the requester directly , if necessary.
Releasing Agency Address	REL:	Maximum of 7 lines, 54 characters per line. Use post office format.
Deposit Account Number	DAN:	5 numeric digits.

LIMITED DOCUMENT *Continued*

Facility Clearance	FCL:	Enter your site's highest level of clearance. TS - Top Secret S - Secret C - Confidential U - Unclassified
Government Sponsor and Address	GOV:	Maximum of 5 lines, 54 characters per line. Use post office format.
Contract Monitor Name and Phone	CMO:	Maximum of 1 line, 54 characters.
Registered Contract Number	CNO:	Maximum of 27 characters.
Contract Clearance	CCL:	Enter the clearance level of the contract cited. TS - Top Secret S - Secret C - Confidential U - Unclassified
User Control	UCN:	Maximum of 18 characters. This information is used to route the document within your organization.
Requester's Title	RTL:	Maximum of 34 characters.

NOTE: For all sites, retype the stubs before entering the required data. On the line after your last stub entry, type END and transmit. (We recommend that sites print and maintain a record of orders placed and system response/confirmations.)

BIBLIOGRAPHIES/SUMMARIES

Search Control Number (Optional)	SCN:	6 alphanumeric characters; generated automatically if left blank.

BIBLIOGRAPHIES/SUMMARIES *Continued*

User Code* (Optional)	UCO:	5-digits; terminal user code assigned if left blank. Not displayed if user code is fixed for the site.
Contract Number (Required for Classified)	CNO:	Last 6 alphanumeric characters of contract number. Only required for classified descriptions of documents requested by contractors.
Requester	REQ:	36-character maximum: enter as desired e.g., Requester's Name. Displays on cover page.
Title (Optional)	TTL:	48-character maximum; enter desired title of bibliography. Displays on cover page.
Referrals**	REF:	Leave blank to receive only bibliographic entries. Enter A - to receive referrals only. Enter B - to receive both bibliographic entries and referrals.
Limitations (Optional)	LMT:	Enter codes to limit data from the final output. Use no punctuation and pack. *To Exclude Reports* A -Restricted Data B -Formerly Restricted Data *To Restrict Reports* F -DoD Only (User will receive a TAB-style printout) -Inhouse only. G -Controlled (User will

BIBLIOGRAPHIES/SUMMARIES *Continued*

		receive a TAB-style printout) -Inhouse only. H -Category 3: Unannounced documents (In-house Only) I -Critical Nuclear Weapons Design Information (CNWDI) J -Unannounced and Critical Nuclear Weapons Design Information (In-House only) P -Patent documents only T -Patent documents and routine bibliographic information *To Limit Reports To* 1 -Classified only 2 -Unclassified Unlimited only 3 -Unclassified Limited only
Maximum Volume (Optional)	MAX:	Up to 4 numeric characters
Bibliography Class (Optional)	BCL:	1-digit code for highest bibliography classification of this order. If left blank, it is the equivalent to No. 4: 1 -Unclassified 2 -Restricted 3 -Confidential 4 -Secret

NOTE: Code 1 must be entered in BIBLIOGRAPHY CLASS for all unclassified bibliographies.

BIBLIOGRAPHIES/SUMMARIES *Continued*

Sort by Classification (Optional)	SCL:	1-digit code for security sort of order. If left blank, it is the equivalent to No. 1: 1 -Secret, Confidential, Unclassified 2 -Classified, Unclassified 3 -AD number sequence
Classified Accessions Only (Optional)	CAO:	Enter Y to receive classified reports only.
Extra Title Page (Optional)	ETP:	Enter Y to receive an extra unclassified title page.
Review (In-House Only) (Optional)	REV:	Enter Y to review.

* *Any valid DTIC user code may be entered; the order will then be sent directly to the site corresponding to the code used.*

** *If you are interested in specialized scientific and technical information sources available to the Defense community that relate to your search request, you may request that Referrals be included in your order.*

NOTE: Dedicated sites use the tab key to move through the stubs when inputting the required data. Print, then transmit the entire screen after the necessary information has been entered. For Dial-Up sites, retype the stubs before entering the required data. On the line after your last stub entry, type END and transmit. (We recommend that sites print and maintain a record of orders placed and system response/confirmations.)

WORK UNIT

Sort Code (Optional)	SCO:	Up to 4 direct file sort field codes, separated by commas. Major sequence is by first sort code. Sequenced by accession no. if left blank.

WORK UNIT *Continued*

Requester (Optional)	REQ:	48-character maximum, e.g., name and room or telephone no.
Title (Optional)	TTL:	48-character maximum, enter desired title of bibliography.
User Code (Optional)	UCO:	5-digit; terminal user code assigned if left blank.* Not displayed if only one user code is allowed for the site.
Contract Number (Required for contractor)	CNO:	Last 6 characters of active contract number.
Bypass Code	BCO:	(DTIC-In-house use)
Search Control Number (Optional)	SCN:	6 characters; generated automatically if left blank.
Classification Code (Optional)	CCO:	1-digit code for security sort of order. If left blank, sort order is the same as 1: 1 - Secret, Confidential, Unclassified 2 - Classified, Unclassified 3 - Accession No. sequence
Maximum Volume (Optional)	MAX:	4-digit code to limit output to a specific number of citations.

* *Any valid DTIC user code may be entered; the order will then be sent directly to the site corresponding to the code used.*

NOTE: Dedicated sites use the tab key to move through the stubs when inputting the required data. Print, then transmit the entire screen after the necessary information has been entered. For Dial-Up sites, retype the stubs before entering the required data. On the line after your last stub entry, type END and transmit. (We recommend that sites print and maintain a record of orders placed and system response/confirmations.)

INDEPENDENT RESEARCH & DEVELOPMENT

Sort Code (Optional)		Up to 4 Direct File sort field codes, separated by commas. Major sequence is by first sort code. Sequenced by accession number if left blank.
Requester (Optional)		48-character maximum, e.g., name and room or telephone number.
Title (Optional)		48-character maximum, enter desired title of order.
User Code (Optional)		5-digit terminal user code assigned if left blank.* Not displayed if only one user code is allowed for the site.
Contract Number (Required for Classified)		Last 6 characters of active contract number, packed.
Bypass Code	BCO:	DTIC In-house use only.
Search Control Number (Optional)	SCN:	6-characters; generated automatically if left blank.
Classification Code (Optional)	CCO:	1-digit code for security sort of order. If left blank, sort order is the same as 1: 1 - Secret, Confidential, Unclassified 2 - Classified, Unclassified 3 - Accession No. sequence

* *Any valid DTIC user code may be entered; the order will then be sent directly to the site corresponding to the code used.*

APPENDIX 6 - ORDER FORMATS

TECHNICAL REPORT

Type	*Format #*	*Comments*
Bibliography	TR6000	
Bibliography (Indexes)	TR2006	AD Number.
	TR2010	Contract Number.
	TR2011	Indexed Terms (Subjects).
	TR2025	Personal Author.
	TR2024	Corporate Author (Monitoring Agency and Source).
	TR2030	Report Number (Series).
	TR2035	Unclassified Titles/Annotation (three-up format).
	TR2031	Unclassified Titles with Serial Number and Report Date (one-up format).
All 8 indexes (Above)	TR2037	Use no other index codes with this format.
Special Title (Index)	TR2036	Classified Titles, other-wise unclassified titles.
Hard Copy	TR3061	
Nonprint (Same as Hard Copy)	TR3061	
Microfiche	TR3062	

Note: No more than 6 unique format numbers may be included in one order.

WORK UNIT

Type	*Format #*	*Comments*
Report Format	A0002	Printout of all fields of each WU item. Narrative fields must be truncated or omitted to fit on 1 page.
Table of Contents	T0002	Performing Organization, Title (Includes Headings).

INDEPENDENT RESEARCH & DEVELOPMENT

Type	*Format #*	*Comments*
Report Format	F0001	Printout of all fields of each IR&D item.

APPENDIX 7 - AD NUMBER RANGES

1980		
A076 345	A091 397	a
A950 000	A950 070	a1
A995 000	A995 049	a2
B041 789	B052 180	b
B951 088	B951 874	b1
B995 034	B995 059	b2
C019 519	C023 118	c
C950 760	C950 870	c1
C995 011	C995 018	c2
D006 437	D007 778	d

1981		
A091 398	A106 817	a
A950 071	A951 549	a1
A995 050	A995 119	a2
B052 181	B060 751	b
B951 875	B953 143	b1
B995 060	B995 077	b2
C023 119	C026 425	c
C950 871	C951 189	c1
C995 019	C995 034	c2
D007 779	D008 895	d

1982		
A106 818	A120 862	a
A951 550	A951 854	a1
A995 120	A995 169	a2
B060 752	B068 713	b
B953 144	B954 531	b1
B995 078	B995 101	b2
C026 426	C029 631	c
C951 190	C951 794	c1
C995 035	C995 043	c2
D008 896	D009 787	d
D095 000	D095 404	b2
P000 001	P000 153	a3

1983		
A120 863	A134 614	a
A951 855	A952 590	a1
A995 170	A995 187	a2
B068 714	B077 836	b
B954 532	B955 169	b1
B995 102	B995 139	b2
C029 632	C032 842	c
C951 795	C952 420	c1
C995 044	C995 049	c2
D009 788	D010 612	d
D095 405	D095 455	b2
P000 154	P001 986	a3

1984		
A134 615	A147 191	a
A952 591	A953 590	a1
A995 188	A995 234	a2
B077 837	B087 117	b
B995 170	B957 434	b1
B995 140	B995 152	b2
C032 843	C035 498	c
C952 421	C953 137	c1
C995 050	C995 055	c2
D010 613	D011 321	d
D095 456	D095 513	b2
P001 987	P004 044	a3
P200 000	P200 167	b3

1985		
A147 192	A160 919	a
A953 591	A954 985	a1
A995 235	A995 294	a2
B087 118	B096 080	b
B957 435	B959 299	b1
B995 153	B995 171	b2
C035 499	C037 790	c
C953 138	C953 418	c1
C995 056	C995 061	c2
D011 322	D011 950	d
P004 045	P004 993	a3
P200 168	P200 325	b3
P400 000	P400 045	c3

1986		
A160 920	A173 598	a
A954 986	A955 143	a1
A995 295	A995 449	a2
B096 081	B106 208	b
B959 300	B960 163	b1
B995 172	B995 197	b2
C037 791	C039 818	c
C953 419	C953 816	c1
C995 062	C995 064	c2
D011 951	D012 548	d
P004 994	P005 070	a3
P200 326	P200 353	b3

1987		
A173 599	A183 967	a
A955 144	A955 270	a1
A995 450	A995 498	a2
B106 209	B114 107	b
B960 164	B962 482	b1
B995 198	B995 218	b2
C039 819	C041 422	c
C953 817	C954 808	c1
C995 065	C995 092	c2
D012 549	D013 088	d
P005 071	P005 566	a3
P400 046	P400 047	b3

1988		
A183 968	A197 854	a
A955 271	A955 362	a1
A995 499	A995 502	a2
B114 108	B123 699	b
B962 483	B964 120	b1
C041 423	C043 213	c
C954 809	C955 853	c1
D013 089	D013 849	d
P005 567	P005 770	a3

1989

A197 855 - A212 172 a
A955 363 - A955 662 a1
B123 700 - B136 109 b
B964 121 - B966 002 b1
C043 214 - C045 032 c
C955 854 - C956 742 c1
D013 850 - D014 207 d
P005 771 - P005 800 a3

1990

A212 173 - A226 683 a
A955 663 - A955 969 a1
B136 110 - B147 954 b
B966 003 - B968 612 b1
C045 033 - C046 887 c
C956 743 - C957 905 c1
D014 208 - D014 641 d
P005 301 - P006 044 a3
P200 354 - P200 838

1991

A226 684 - A240 789 a
A955 970 - A959 026 a1
B147 955 - B158 169 b
B968 613 - B969 463 b1
C046 888 - C048 632 c
C957 906 - C958 669 c1
D014 642 - D014 986 d
M000 001 - M000 076
M200 000 - M200 063
M400 000 - M400 013
P006 045 - P006 325 a3

1992

A240 790 - A255 194 a
A956 027 - A956 117 a1
B158 170 - B166 968 b
B969 464 - B970 089 b1
C048 633 - C049 798 c
C958 670 - C959 580 c1
D014 987 - D015 393 d
M000 077 - M000 154
M200 064 - M200 133
M400 014 - M400 025
P006 326 - P008 018 a3
P200 839 - P200 973

1993

A255 195 - A262 811 a
A956 118 - A956 157 a1
B166 969 - B172 088 b
B970 090 - B970 281 b1
C049 799 - C050 405 c
C959 581 - C959 873 c1
D015 394 - D015 695 d
M000 155 - M000 187
M200 134 - M200 145
P008 019 - P008 592 a3

1993 Ranges as of
15 April 1993

LEGEND

a - Unclas/NTIS
a1 - Unclas/Unan/NTIS
a2 - Unclas/Unan/DNA/NTIS
a3 - Unclas/Compil/NTIS
b - Unclas/DTIC
b1 - Unclas/Unan/DTIC
b2 - Unclas/Unan/no doc
b3 - Unclas/Compil/DTIC
c - Clas/DTIC
c1 - Clas/Unan/DTIC
c2 - Clas/Unan/no doc
c3 - Clas/Compil/DTIC
d - Unclas/Patents/IAC

REMOTE CONTRIBUTORS: IACs

CBIAC
D750 000 - D799 999

CSERIAC
D900 000 - D949 999

CIAC
D250 00 - D299 999

CPIA
D600 000 - D699 999

GACIAC
D500 000 - D599 999

HTMIAC
D850 000 - D899 999

IRIA
D950 000 - D999 999

MIAC
175 000 - 183 121
D100 000 - D199 999

MMCIAC
D200 000 - D249 999

MTIAC
D800 000 - D849 999

NTIAC
190 000 - 199 999
D300 000 - D399 999

PLASTEC
D400 000 - D499 999

SURVIAC
D700 000 - D749 999

SBIN SITES

AD-E and AD-F ranges

DOE DATA EXCHANGE

AD-R range

APPENDIX 8 - GEOPOLITICAL CODES

STATE CODES

STATE CODES *Continued*

FOREIGN COUNTRY CODES

FOREIGN COUNTRY CODES *Continued*

Bolivia ..... BO
Botswana ..... BW
Bouvet Island ..... BV
Brazil ..... BR
British Indian Ocean Territory ..... IO
British Virgin Islands ..... VG
Brunei Darussalam ..... BN
Bulgaria ..... BG
Burkina Faso ..... BF
Burma ..... BU
Burundi ..... BI
Cambodia ..... KH
Cameroon ..... CM
Canada ..... CA
Cape Verde CV
Cayman Islands ..... KY
Central African Republic ..... CF
Chad ..... TD
Chile CL
China ..... CN
Christmas Island (Indian Ocean) CX
Cocos (Keeling) Islands CC
Colombia ..... CO
Comoros Island ..... KM
Congo ..... CG
Cook Islands ..... CK
Costa Rica ..... CR
Cuba ..... CU
Cyprus ..... CY
Czechoslovakia ..... CS
Denmark ..... DK
Djibouti ..... DJ
Dominica ..... DM
Dominican Republic ..... DO
Ecuador ..... EC
Egypt ..... EG
El Salvador ..... SV
Equatorial Guinea ..... GQ
Ethiopia ..... ET

FOREIGN COUNTRY CODES *Continued*

Falkland Islands ..... FK
Faroe Islands ..... FO
Fiji ..... FJ
Finland ..... FI
France ..... FR
French Guiana ..... GF
French Polynesia ..... PF
French Southern and Antarctic Lands ..... TF
Gabon ..... GA
Gambia ..... GM
Germany, Democratic Republic ..... DD
Germany, Federal Republic of ..... DE
Ghana ..... GH
Gibraltar ..... GI
Greece ..... GR
Greenland ..... GL
Grenada ..... GD
Guadeloupe ..... GP
Guam ..... GU
Guatemala ..... GT
Guinea ..... GN
Guinea-Bissau ..... GW
Guyana ..... GY
Haiti ..... HT
Heard and McDonald Islands ..... HM
Honduras ..... HN
Hong Kong ..... HK
Hungary ..... HU
Iceland ..... IS
India ..... IN
Indonesia ..... ID
Iran ..... IR
Iraq ..... IQ
Iraq-Saudia Arabia Neutral Zone ..... NT
Ireland ..... IE
Israel IL
Italy ..... IT
Ivory Coast CI
Jamaica ..... JM

FOREIGN COUNTRY CODES *Continued*

Japan ..... JP
Jordan ..... JO
Kenya ..... KE
Keribati ..... KI
Korea, Democratic People's Republic of ..... KP
Korea, Republic of ..... KR
Kuwait ..... KW
Lao People's Democratic Republic ..... LA
Lebanon ..... LB
Lesotho ..... LS
Liberia ..... LR
Libya ..... LY
Liechtenstein LI
Luxembourg ..... LU
Macau ..... MO
Madagascar ..... MG
Malawi ..... MW
Malaysia ..... MY
Maldives ..... MV
Mali ..... ML
Malta ..... MT
Marshall Islands ..... MH
Martinique ..... MQ
Mauritania ..... MR
Mauritius ..... MU
Mayotte ..... YO
Mexico ..... MX
Micronesia, Federated States of FM ..... FM
Monaco ..... MC
Mongolia ..... MN
Montserrat ..... MS
Morocco ..... MA
Mozambique ..... MZ
Namibia ..... NA
Nauru ..... NR
Nepal ..... NP
Netherlands ..... NL
Netherlands Antilles ..... AN
New Caledonia ..... NC

FOREIGN COUNTRY CODES *Continued*

New Zealand ..... NZ
Nicaragua ..... NI
Niger ..... NE
Nigeria ..... NG
Niue ..... NU
Norfolk Island ..... NF
Northern Mariana Islands ..... MP
Norway ..... NO
Oman ..... OM
Pakistan ..... PK
Palau ..... PW
Panama ..... PA
Paracel Islands ..... PI
Paraguay ..... PY
Peru ..... PE
Philippines ..... PH
Pitcairn Island ..... PN
Poland ..... PL
Portugal ..... PT
Puerto Rico ..... PR
Qatar ..... QA
Reunion ... . RE
Romania ..... RO
Rwanda ..... RW
Saint Helena ..... SH
Saint Lucia LC
Saint Pierre and Miquelon ..... PM
Saint Vincent and the Grenadines VC
San Marino ..... SM
Sao Tome and Principe ..... ST
Saudi Arabia ..... SA
Senegal ..... SN
Seychelles ..... SC
Sierra Leone ..... SL
Singapore ..... SG
Solomon Islands ..... SB
Somalia ..... SO
South Africa ..... ZA
Spain ..... ES

FOREIGN COUNTRY CODES *Continued*

Spratly Island ..... SI
Sri Lanka ..... LK
Sudan ..... SD
Suriname ..... SR
Svalbard and Jan Mayen Islands ..... SJ
Swaziland ..... SZ
Sweden ..... SE
Switzerland ..... CH
Syrian Arab Republic ..... SY
Taiwan ..... TW
Tanzania ..... TZ
Thailand ..... TH
Togo ..... TG
Tokelau Islands ..... TK
Tonga ..... TO
Trinidad and Tabago ..... TT
Tunisia ..... TN
Turkey ..... TR
Turks and Caicos Islands ..... TC
Tuvalu ..... TV
Uganda ..... UG
Union of Soviet Socialist Republics ..... SU
United Arab Emirates ..... AE
United Kingdom ..... GB
United States ..... US
United States Minor Outlying Islands ..... UM
Uruguay ..... UY
Vanuatu ..... VU
Vatican City ..... VA
Venezuela ..... VE
Vietnam ..... VN
Virgin Islands VI
Wallis and Futana Islands ..... WF
Western Sahara ..... EH
Western Samoa ..... WS
Yemen ..... YE
Yemen, People's Democratic Republic of ..... YD
Yugoslavia ..... YU

FOREIGN COUNTRY CODES *Continued*

Zaire ..... ZR
Zambia ..... ZM
Zimbabwe ..... ZW

APPENDIX 9 - TR DISTRIBUTION LIMITATION AVAILABILITY CODES

Type	*Code*	*Explanation*
Primary	1	Approved for Public Release
	2	U.S. Govt. and Their Contractors
	3	U.S. Govt. Only; DoD Controlled
	4	DoD Only; DoD Controlled
	5	Controlled; DoD Controlled
	7	Export Control; DLSE Certified
	9	Classified
	12	DTIC Users Only
	13	U.S. Govt. Only; non-DoD Controlled
	14	DoD Only; non-DoD Controlled
	15	Controlled; non-DoD Controlled
	16	DoD and Their Contractors
Secondary	20	Journal Articles; DTIC Users Only
	21	Journal Articles; Announcement Only (Patents; NTIS Availability, etc.)
	23	Document partially illegible. Parts may not be reproducible
	24	Microfiche Only
	51	Restricted Data
	52	Formerly Restricted Data
	53	NATO Furnished
	57	Export Control
Indexed Terms		REL, NO CONTRACT, CNWDI, ORCON, EXPORT CONTROL, PROPIN, NOFORN, WNINTEL, LIMDIS

APPENDIX 10 - SUBJECT FIELD AND GROUP STRUCTURE

01 AVIATION TECHNOLOGY
- 01 Aerodynamics
- 02 Military Aircraft Operations
- 03 Aircraft
- 03.01 Helicopters
- 03.02 Bombers
- 03.03 Attack and Fighter Aircraft
- 03.04 Patrol and Reconnaissance Aircraft
- 03.05 Transport Aircraft
- 03.06 Training Aircraft
- 03.07 V/STOL
- 03.08 Gliders and Parachutes
- 03.09 Civilian Aircraft
- 03.10 Pilotless Aircraft
- 03.11 Lighter-than-Air Aircraft
- 03.12 Research and Experimental Aircraft
- 04 Flight Control and Instrumentation
- 05 Terminal Flight Facilities
- 06 Commercial and General Aviation

02 AGRICULTURE
- 01 Agricultural Chemistry
- 02 Agricultural Economics
- 03 Agricultural Engineering
- 04 Agronomy, Horticulture and Aquiculture
- 05 Animal Husbandry and Veterinary Medicine
- 06 Forestry

03 ASTRONOMY AND ASTROPHYSICS
- 01 Astronomy
- 02 Astrophysics
- 03 Celestial Mechanics

04 ATMOSPHERIC SCIENCES
- 01 Atmospheric Physics
- 02 Meteorology

05 BEHAVIORAL AND SOCIAL SCIENCES
- 01 Administration and Management
- 02 Information Science
- 03 Economics and Cost Analysis
- 04 Government and Political Science
- 05 Sociology and Law
- 06 Humanities and History
- 07 Linguistics
- 08 Psychology
- 09 Personnel Management and Labor Relations

06 BIOLOGICAL AND MEDICAL SCIENCES
- 01 Biochemistry
- 02 Genetic Engineering and Molecular Biology
- 03 Biology
- 04 Anatomy and Physiology
- 05 Medicine and Medical Research
- 06 Ecology
- 07 Radiobiology
- 08 Food, Food Service and Nutrition
- 09 Hygiene and Sanitation
- 10 Stress Physiology
- 11 Toxicology
- 12 Medical Facilities, Equipment and Supplies
- 13 Microbiology
- 14 Weapons Effects (Biological)
- 15 Pharmacology

07 CHEMISTRY
- 01 Industrial Chemistry and Chemical Processing
- 02 Inorganic Chemistry
- 03 Organic Chemistry
- 04 Physical Chemistry
- 05 Radiation and Nuclear Chemistry
- 06 Polymer Chemistry

08 EARTH SCIENCES AND OCEANOGRAPHY
- 01 Biological Oceanography
- 02 Cartography and Aerial Photography
- 03 Physical and Dynamic Oceanography
- 04 Geomagnetism
- 05 Geodesy

08 EARTH SCIENCES AND OCEANOGRAPHY continued

- 06 Geography
- 07 Geology, Geochemistry and Mineralogy
- 08 Hydrology, Limnology and Potamology
- 09 Mining Engineering
- 10 Soil Mechanics
- 11 Seismology
- 12 Snow, Ice and Permafrost

09 ELECTROTECHNOLOGY AND FLUIDICS

- 01 Electrical and Electronic Equipment
- 02 Fluidics and Fluerics
- 03 Lasers and Masers
- 04 Line, Surface and Bulk Acoustic Wave Devices
- 05 Electrooptical and Optoelectronic Devices
- 06 Acoustooptic and Optoacoustic Devices
- 07 Electromagnetic Shielding

10 POWER PROPULSION AND ENERGY CONVERSION (Nonpropulsive)

- 01 Non-Electrical Energy Conversion
- 02 Electric Power Production and Distribution
- 03 Electrochemical Energy Storage
- 04 Energy Storage

11 MATERIALS

- 01 Adhesives, Seals and Binders
- 02 Ceramics, Refractories and Glass
- 02.31 Refractory Fibers
- 03 Coatings, Colorants and Finishes
- 04 Laminates and Composite Materials
- 05 Textiles
- 06 Metallurgy and Metallography
- 06.01 Properties of Metals and Alloys
- 06.02 Fabrication Metallurgy
- 07 Miscellaneous Materials
- 08 Lubricants and Hydraulic Fluids
- 09 Plastics
- 10 Elastomers and Rubber
- 11 Solvents, Cleaners and Abrasives
- 12 Wood, Paper and Related Forestry Products

12 MATHEMATICAL AND COMPUTER SCIENCES

- 01 Numerical Mathematics
- 02 Theoretical Mathematics
- 03 Statistics and Probability
- 04 Operations Research
- 05 Computer Programming and Software
- 06 Computer Hardware
- 07 Computer Systems
- 08 Computer Systems Management and Standards
- 09 Cybernetics

13 MECHANICAL, INDUSTRIAL, CIVIL AND MARINE ENGINEERING

- 01 Air Conditioning, Heating, Lighting and Ventilating
- 02 Civil Engineering
- 03 Construction Equipment, Materials and Supplies
- 04 Containers and Packaging
- 05 Couplers, Fasteners and Joints
- 06 Surface Transportation and Equipment
- 06.01 Surface Effect Vehicles and Amphibious Vehicles
- 07 Hydraulic and Pneumatic Equipment
- 08 Manufacturing and Industrial Engineering and Control of Production Systems
- 09 Machinery and Tools
- 10 Marine Engineering
- 10.01 Submarine Engineering
- 11 Pumps, Filters, Pipes, Tubing, Fittings and Valves
- 12 Safety Engineering
- 13 Structural Engineering and Building Technology

14 TEST EQUIPMENT, RESEARCH FACILITIES AND REPROGRAPHY

- 01 Holography
- 02 Test Facilities, Equipment and Methods
- 03 Recording and Playback Devices
- 04 Photography
- 05 Printing and Graphic Arts

15 MILITARY SCIENCES

- 01 Military Forces and Organizations
- 02 Civil Defense
- 03 Defense Systems

15 MILITARY SCIENCES continued

03.01 Antimissile Defense Systems
03.02 Antiaircraft Defense Systems
03.03 Antisatellite Defense Systems
04 Military Intelligence
05 Logistics, Military Facilities and Supplies
06 Military Operations, Strategy and Tactics
06.01 Naval Surface Warfare
06.02 Undersea and Antisubmarine Warfare
06.03 Chemical, Biological and Radiological Warfare
06.04 Nuclear Warfare
06.05 Space Warfare
06.06 Land Mine Warfare
06.07 Unconventional Warfare

16 GUIDED MISSILE TECHNOLOGY

01 Guided Missile Launching and Basing Support
02 Guided Missile Trajectories, Accuracy and Ballistics
02.01 Guided Missile Dynamics, Configurations and Control Surfaces
03 Guided Missile Warheads and Fuzes
04 Guided Missiles
04.01 Air- and Space-Launched Guided Missiles
04.02 Surface-Launched Guided Missiles
04.03 Underwater-Launched Guided Missiles
05 Guided Missile Reentry Vehicles

17 NAVIGATION, DETECTION AND COUNTERMEASURES

01 Acoustic Detection and Detectors
02 Non-Acoustic and Non-Magnetic Submarine Detection
03 Direction Finding
04 Countermeasures
04.01 Radio Countermeasures
04.02 Acoustic Countermeasures
04.03 Radar Countermeasures
04.04 Optical Countermeasures
05 Optical Detection and Detectors
05.01 Infrared Detection and Detectors
05.02 Ultraviolet Detection and Detectors
06 Magnetic and Electric Field Detection and Detectors

17 NAVIGATION, DETECTION AND COUNTERMEASURES continued

07 Navigation and Guidance
07.01 Land and Riverine Navigation and Guidance
07.02 Underwater and Marine Navigation and Guidance
07.03 Air Navigation and Guidance
07.04 Space Navigation and Guidance
08 Miscellaneous Detection and Detectors
09 Active and Passive Radar Detection and Equipment
10 Seismic Detection and Detectors
11 Target Direction, Range and Position Finding

18 NUCLEAR SCIENCE AND TECHNOLOGY

01 Fusion Devices (Thermonuclear)
02 Isotopes
03 Nuclear Explosions and Devices (Non-Military)
04 Nuclear Instrumentation
05 Nuclear Power Plants and Fission Reactor Engineering
05.01 Nuclear Fission Reactors (Power)
05.02 Nuclear Fission Reactors (Non-Power)
06 Nuclear Radiation Shielding, Protection and Safety
07 Radioactivity, Radioactive Wastes and Fission Products
08 SNAP (Systems for Nuclear Auxiliary Power) Technology
09 Fission Reactor Physics
10 Fission Reactor Materials

19 ORDNANCE

01 Ammunition and Explosives
01.01 Pyrotechnics
02 Aerial Bombs
03 Combat Vehicles
04 Armor
05 Fire Control and Bombing Systems
06 Guns
07 Rockets
08 Underwater Ordnance
08.01 Torpedoes
09 Explosions
10 Ballistics
11 Nuclear Weapons

19 ORDNANCE continued
- 12 Directed Energy Weapons
- 13 Guided Munitions

20 PHYSICS
- 01 Acoustics
- 02 Crystallography
- 03 Electricity and Magnetism
- 04 Fluid Mechanics
- 05 Atomic and Molecular Physics and Spectroscopy
- 06 Optics
- 06.01 Fiber Optics and Integrated Optics
- 07 Particle Accelerators
- 08 Nuclear Physics and Elementary Particle Physics
- 09 Plasma Physics and Magnetohydrodynamics
- 10 Quantum Theory and Relativity
- 11 Mechanics
- 12 Solid State Physics
- 13 Thermodynamics
- 14 Radiofrequency Wave Propagation
- 15 Electromagnetic Pulses

21 PROPULSION, ENGINES AND FUELS
- 01 Air Breathing Engines (Unconventional)
- 02 Combustion and Ignition
- 03 Electric and Ion Propulsion
- 04 Fuels
- 05 Jet and Gas Turbine Engines
- 06 Nuclear Propulsion
- 07 Reciprocating and Rotating Engines
- 08 Rocket Engines
- 08.01 Liquid Propellant Rocket Engines
- 08.02 Solid Propellant Rocket Engines
- 09 Rocket Propellants
- 09.01 Liquid Rocket Propellants
- 09.02 Solid Rocket Propellants

22 SPACE TECHNOLOGY
- 01 Astronautics
- 02 Unmanned Spacecraft
- 03 Spacecraft Trajectories and Reentry

22 SPACE TECHNOLOGY continued

04 Ground Support Systems and Facilities for Space Vehicles
05 Manned Spacecraft

23 BIOTECHNOLOGY

01 Biomedical Instrumentation and Bioengineering
02 Human Factors Engineering and Man Machine Systems
03 Bionics
04 Protective Equipment
05 Life Support Systems
06 Escape, Rescue and Survival

24 ENVIRONMENTAL POLLUTION AND CONTROL

01 Air Pollution and Control
02 Noise Pollution and Control
03 Solid Wastes Pollution and Control
04 Water Pollution and Control
05 Pesticides Pollution and Control
06 Radiation Pollution and Control
07 Environmental Health and Safety

25 COMMUNICATIONS

01 Telemetry
02 Radio Communications
03 Non-Radio Communications
04 Voice Communications
05 Command, Control and Communications Systems

APPENDIX 11 - MISSION, FUNCTION, AND TECHNOLOGY CODES

MISSION CODES

WARFARE MISSION AREAS

1.1 Antiair Warfare
1.2 Antisubmarine Warfare
1.3 Naval Antisurface Ship Warfare
1.4 Amphibious Warfare
1.5 Chemical Warfare
1.6 Biological and Radiological Defense
1.7 Land Warfare
1.8 Special Warfare
1.9 Strategic Warfare
1.10 Tactical Air Warfare
1.11 Electronic Warfare
1.12 Strategic Defense Initiative

MOBILITY MISSION AREAS

2.1 Air Mobility
2.2 Land Mobility
2.3 Sea-Surface Mobility
2.4 Undersea Mobility
2.5 Space Mobility

COMMUNICATIONS, COMMAND AND CONTROL/ INTELLIGENCE MISSION AREAS

3.1 Communications, Command and Control
3.2 Intelligence, Including Reconnaissance

MINE AND OBSTACLE MISSION AREAS

4.1 Land Mine/Obstacle/Countermeasures
4.2 Sea Mine/Countermine

MISSION AND SYSTEM SUPPORT MISSION AREAS

5.1 Logistics
5.2 Manpower, Personnel and Training
5.3 Mission/System Support

FUNCTION CODES

WEAPONS SYSTEMS FUNCTIONS

1.1 Target Acquisition/Search/Detect
1.2 Threat Evaluation
1.3 Target Tracking
1.4 Weapon Assignment
1.5 Fire Control Acquisition and Designation
1.6 Launch
1.7 Propulsion
1.8 Control
1.9 Conventional Munitions/Weapons
1.10 Directed Energy Weapons
1.11 Hard Target Kill/Anti-Armor
1.12 Fuzing
1.13 Chemical Warfare (Offense)

DEFENSIVE SYSTEMS FUNCTIONS

2.1 Hit Avoidance
2.2 Signature Control/Suppression Reduction
2.3 Armor, Infantry and Crew Protection
2.4 EMP Hardening/Survivability from Nuclear Weapons
2.5 Damage Control
2.6 Chemical/Biological Defense
2.7 Deterrence

MINE FUNCTIONS

3.1 Mine Mooring
3.2 Mine Neutralization/Destruction

C31 FUNCTIONS

4.1 Information Management
4.2 Communication
4.3 Guidance/Navigation/Position Location
4.4 Avionics/Vetronics/Display Systems

ELECTRONIC WARFARE FUNCTIONS

5.1 Electronic Countermeasures
5.1.1 Jamming
5.1.2 Deception
5.1.3 Cryptography
5.2 Electronic Counter Countermeasures
5.2.1 Low Probability
5.2.2 Electromagnetic Signal Measurement/Intelligence
5.2.3 Jam Resistance

ASSESSMENT/ANALYSIS FUNCTIONS

6.1 Simulation
6.2 Weapons and Munitions Effects/Target Kill Assessment
6.3 Vulnerability Analysis

RDT&E FUNCTIONS

7.1 Energetic Materials
7.2 Manufacturing Technology
7.2.1 Electronics
7.2.2 Other than Electronics
7.3 Materials Development
7.3.1 Metals, Ceramics, Organics and Composites
7.3.2 Electronics
7.4 Test Equipment/Technology
7.4.1 Structural
7.4.2 Electronics
7.5 Reliability
7.6 Maintainability
7.7 Structures, including Design and Manufacture
7.7.1 Missile
7.7.2 Aircraft
7.7.3 Hull
7.7.4 Body/Chassis

MISCELLANEOUS FUNCTIONS

8.1 Multi-Function Applications
8.2 Robotics
8.3 Human Factors/Human Engineering
8.4 Artificial Intelligence/Adaptive Systems
8.5 Basic Scientific Research/University Interactions

SUPPLY/SUPPORT/CONSTRUCTION FUNCTIONS

9.1 Material Distribution and Payload Handling/Supply Systems
9.2 Training
9.3 Field Services (Water, Food, Tents, etc.)
9.4 Bridging/Obstacles
9.5 Support and Auxiliary Equipment
9.6 Habitability
9.7 Environmental Effects
9.8 Facility Construction

MANAGEMENT/PERSONNEL FUNCTIONS

10.1 RDT&E Management
10.2 Acquisition Management
10.3 Financial Management
10.4 Medical/Casualty Care
10.5 Performance Appraisal

TECHNOLOGY CODES

This category is organized to enable the coding of advanced technology products as well as systems studies, development, and engineering efforts. The basis for the code is the Military Critical Technology List (MCTL), which though not intended, serves that end reasonably well. Sections 30.0 through 40.0 have been added to the MCTL listings to provide a *home* for those efforts which are conceptual, developmental, or engineering in nature and don't *fit* comfortably in the technical categories of sections 1 through 20. In many examples, though, a project can be categorized both in the technical arena and the system engineering arena.

Overlap of categories in the sections numbered 30.0 through 40.0 and those numbered 1.0 through 20.0 is intentional. This provides additional keys to project identity and offers a better chance of technology capture for searches.

In general, each project should be defined at its most specific level. In some cases this may be only the second or third level and in others it may be the fifth or sixth level - it all depends upon how uniquely specific the project is and the level of detail to which the list differentiates that technical area.

1.0	**INFORMATION SYSTEMS AND NETWORKS TECHNOLOGY**
1.1	**Systems Engineering Technology**
1.2	**Information Processing Technology**
1.2.1	Data Acquisition and Conversion Technology
1.2.2	Image Processing Systems Technology
1.2.3	Speech Processing Systems Technology
1.2.4	Signal Processing Technology
1.3	**Decision Support Systems Technology**
1.3.1	Decision Support Systems Technology
1.3.2	Man/Machine Integration Technology
1.3.3	Artificial Intelligence Technology
1.3.4	Dynamic Training/Simulation Technology
1.4	**Computer Network Technology**
2.0	**COMPUTER HARDWARE TECHNOLOGY**
2.1	**Systems Development and Production Technology**
2.1.1	Computer Hardware Development Technology

2.0 COMPUTER HARDWARE TECHNOLOGY
continued
2.1.2 Computer Hardware Production Technology
2.1.3 Computer Packaging Technology
2.2 Digital Computer System Utilization Technology
2.2.1 Computer-Aided Servicing (CAS) Technology
2.2.2 Computer System Configuration Management Technology
2.2.3 Digital Computer Security Technology
2.3 Logic and High-Speed Memory Assembly Technology
2.3.1 High-Speed Logic and Memory Assemblies Technology
2.3.2 Microprocessor
2.3.3 Magnetic Core Memory
2.3.4 Thin-Film Memory Device
2.3.5 Magnetic Bubble Memory
2.3.6 Plated Wire
2.3.7 Cross-Tie Memory
2.4 Storage Technology
2.4.1 Magnetic Storage
2.4.2 Magnetic Storage Read/Write Head
2.4.3 Magnetic Storage Recording Media
2.4.4 Magnetic Storage Electro-Mechanical Technology
2.4.5 Optical Disk Digital Storage
2.4.6 Optical Disk Read/Write Transducer Assembly
2.4.7 Optical Disk Recording Media
2.4.8 Optical Disk Electronics
2.4.9 Optical Disk Mechanics
2.5 Digital Computer Display and Workstation Technology, and Peripheral Technology
2.5.1 Alphanumeric and Graphic Display Device Technology
2.5.2 Peripherals Technology
2.6 Hybrid Computer Technology
3.0 COMPUTER SOFTWARE TECHNOLOGY
3.1 Software Life-Cycle Technology
3.1.1 Software Life-Cycle Management Technology
3.1.2 Software Life-Cycle Library Technology
3.1.3 Software Life-Cycle Tools Technology
3.2 Systems and Applications Software Technology
3.2.1 Systems Simulation and Modeling Technology

3.0 COMPUTER SOFTWARE TECHNOLOGY
continued

3.2.2 Operating Systems Software Technology
3.2.3 Logistics Support Software Technology
3.4 Microprogrammable Device Software Technology
3.5 Trusted Computer Base (B3 Level Or Higher) Technology

4.0 AUTOMATED CONTROL OF INDUSTRIAL SYSTEMS (ACIS) TECHNOLOGY
4.1 Facility Integration Technology
4.2 Manufacturing Level Integration Technology
4.2.2 Manufacturing Cell Control Technology
4.3 Enterprise Integration Technology
4.4 CAD/CAM/CAI/CAT/CAS - Element Control Technology
4.4.1 Computer-Aided Design Technology
4.4.2 Computer-Aided Manufacturing, Inspection and Testing Technology
4.4.3 Computer-Aided Servicing (CAS) and Automated Maintenance Technology

5.0 MATERIALS AND PRODUCTION TECHNOLOGY
5.1 Metals and Alloys Technology
5.1.1 Magnetic and Amorphous Metals Technology
5.1.2 Nickel-Based and Cobalt-Based Alloys Technology
5.1.5 Molybdenum Alloys Technology
5.1.6 Tungsten Technology
5.1.7 Intricate Superalloy Shapes Casting Technology
5.1.8 Plasma Spraying Technology
5.1.9 Advanced Powder Metallurgy Technology
5.1.10 Superplastic Forming/Diffusion Bonding (SPF/DB) Technology
5.1.11 Titanium, Nickel and Iron Aluminides Technology
5.1.12 Superconducting Materials Technology
5.1.13 Pressure Pipe and Fittings Technology
5.1.16 High Yield Strength Steel Technology
5.1.19 Ingot Aluminum-Lithium Technology
5.1.20 Depleted Uranium Alloys
5.1.21 Beryllium Alloys

5.0 MATERIALS AND PRODUCTION TECHNOLOGY *continued*

5.2 Advanced Composites and Ceramics Technology

5.2.1 Fibers and Filamentary Materials Technology
5.2.2 Filament Winding, Tape-Laying and Interlacing Equipment Technology
5.2.3 Organic Matrix Composites Technology
5.2.4 Ceramics Technology
5.2.5 Metal-Matrix Composites Technology
5.2.6 Ceramic Matrix Composites Technology
5.2.7 Carbon-Carbon Composites Technology
5.2.8 Reinforcement Materials for Composites

5.3 Metalworking and Production Technology

5.3.1 Isostatic Pressing Technology
5.3.2 High-Temperature Press Technology
5.3.3 Isothermal Shape Rolling Technology
5.3.4 Isothermal Metalworking Technology
5.3.5 High-Temperature Furnace Technology
5.3.6 Numerically-Controlled Machine Technology
5.3.7 Precision Turning Machine Technology
5.3.8 Spin- and Flow-Forming Machines Technology
5.3.9 High Vacuum Technology
5.3.10 Laser Processing Technology
5.3.11 High Performance Welding Technology
5.3.12 Failure/Fracture Analysis and Nondestructive Evaluation (NDE) Technology
5.3.13 Test Equipment for Integrated Structural Testing Technology
5.3.14 Robot Technology
5.3.15 Direct-Acting Hydraulic Pressing Technology

5.4 Coatings and Surface Modification Technology

5.4.1 Metallic and Metal Matrix Composites Substrates Coatings
5.4.2 Ceramics, Ceramic Matrix Composites, and Carbon-Carbon Composites Coatings Technology
5.4.3 Optical Coatings Technology
5.4.4 Seal Coatings Technology
5.4.5 Coatings Deposition Technology

5.5 Bearings and Bearing Manufacturing Technology

5.5.1 High DN Rolling Element and Precision Bearing

5.0 MATERIALS AND PRODUCTION TECHNOLOGY *continued*

5.5.2 Hostile Environment Rolling Element Bearing
5.5.3 Fluid-Film Bearing
5.5.4 Low Torque Antifriction Bearing
5.5.5 Quiet Ball Bearing
5.5.6 Extreme Precision Antifriction Bearing
5.5.7 Active Magnetic Bearing
5.5.8 Fabric Lined Sliding Bearing

5.6 Dimensional Metrology Technology

5.6.1 Rotary Axis
5.6.2 Laser Location Measuring
5.6.3 Solid Model Fitting
5.6.4 High Accuracy Dimensional Measuring Machines
5.6.5 Photogrammetry Measuring Techniques
5.6.6 Rotary Contour Gage
5.6.7 Probe
5.6.8 Electronic Autocollimator

6.0 DIRECTED ENERGY AND KINETIC ENERGY SYSTEMS TECHNOLOGY

6.1 High-Energy Laser (HEL) Systems, Subsystems, Components and Devices Technology

6.1.1 High-Energy Laser Device Technology
6.1.2 HEL Mirror and Optical Component Technology
6.1.3 HEL Beam-Pointing and Control Technology
6.1.4 HEL Beam Propagation Technology
6.1.5 HEL Beam-Target Coupling Technology
6.1.6 HEL Target Effects and Countermeasures Technology

6.2 High-Power Radio-Frequency Energy Systems Technology

6.2.1 High-Power Radio-Frequency Systems Technology
6.2.2 High-Power Radio-Frequency Transmission Technology
6.2.3 High-Power Radio-Frequency Material Interaction Technology
6.2.4 High-Power Radio-Frequency Target Effects and Countermeasures Technology

6.3 Particle Beam Systems Technology

6.3.1 Electron Beam Systems Technology
6.3.2 Neutral Particle Beam Systems Technology

6.0 DIRECTED ENERGY AND KINETIC ENERGY SYSTEMS TECHNOLOGY *continued*

6.4 Kinetic Energy Systems Technology

6.4.1 Propulsion Systems Technology

6.4.2 Kinetic Energy Projectiles Technology

6.4.3 Kinetic Energy Target Effects and Countermeasures Technology

6.4.4 Kinetic Energy Platform Management

6.5 Nonnuclear Electromagnetic Pulse Systems Technology

6.6 Directed Energy and Kinetic Energy Systems Test Targets and Models Technology

7.0 SEMICONDUCTOR AND ELECTRONIC COMPONENT TECHNOLOGY

7.1 Microcircuit Technology

7.1.1 Wafer Preparation Technology

7.1.2 Epitaxy Process Technology

7.1.3 Oxidation Processes Technology

7.1.4 Maskmaking Technology

7.1.5 Lithographic Technology

7.1.6 Selective Removal Technology

7.1.7 Diffusion/Implantation Technology

7.1.8 Thin-Film Deposition Technology

7.1.9 Microcircuit Assembly Technology

7.1.10 Microcircuit Testing Technology

7.1.11 Microcircuit Production Facilities Technology

7.1.12 IC Design Technology

7.1.13 Hybrid Microcircuits Technology

7.1.14 Microwave Integrated Circuits Technology

7.1.15 Microcircuit Packaging Technology

7.2 Discrete Solid State Device Technology

7.2.1 Discrete Transistor Technology

7.2.2 Semiconductor Diode Technology

7.2.3 Thyristor Technology

7.2.4 Semiconductor Technology

7.3 Detector, Tube, Intensifier and Cooler Technology

7.3.1 Semiconductor Detector Technology

7.3.2 Photomultiplier Tube Technology

7.3.3 Image Intensifier Technology

7.3.4 Thermoelectric Cooler Technology

7.0 SEMICONDUCTOR AND ELECTRONIC COMPONENT TECHNOLOGY *continued*
7.4 Acoustic Wave Device Technology
7.5 Thin-Film Memory Device Technology
7.5.1 Magnetic Bubble Memory Technology
7.5.2 Plated Wire Memory Technology
7.5.3 Cross-Tie Memory Technology
7.6 Passive Component Technology
7.6.1 Ferrite Material and Device Technology
7.6.2 Strontium Titanate Monolithic Ceramic Capacitor Technology
7.6.3 High Energy Density Capacitor Technology
7.6.4 Quartz Crystal Technology
7.6.5 Printed Circuit Board Technology
7.7 Superconducting and Cryogenic Component Technology
7.7.1 Superconducting Digital Component Technology
7.7.2 Cryogenic Cooling Technology
7.8 Electronic Material Technology
7.8.1 Preparation, Purification and Compounding of Electronic, Electrooptic and Optical Materials Technology
7.8.2 Bulk and Epitaxial Crystal Growth Technology

8.0 INSTRUMENTATION TECHNOLOGY
8.1 Time-Domain Measurement Technology
8.1.1 Oscilloscope Technology
8.1.2 Electronic Time Interval Measurement Technology
8.1.3 Electronic Streak Camera Technology
8.2 Frequency-Domain Measurement Technology
8.2.1 Radio Spectrum Analyzer Technology
8.2.2 Panoramic and Digital Receiver Technology
8.2.3 Real-Time Spectrum Analyzer Technology
8.2.4 Frequency Counter Technology
8.3 Frequency Standards and Signal Source Technology
8.3.1 Frequency Standard Technology
8.3.2 Frequency Synthesizer Technology
8.3.3 Signal Generator Technology

8.0 INSTRUMENTATION TECHNOLOGY *continued*

8.4 Electrical Parameter and Digital Measuring Technology

8.4.1 Network Analyzer Technology
8.4.2 Digital Voltage Measuring Technology
8.4.3 Microwave Power Measurement Technology
8.4.4 Active Signal Acquisition Probe Technology

8.5 Digital Instrument Technology

8.5.1 Logic Analyzer Technology
8.5.2 Microprocessor and Bit Slice Development System Technology
8.5.3 Analog-to-Digital and Digital-to-Analog Converter Technology
8.5.4 Automatic Test Equipment Technology
8.5.5 Acoustic Emission Test Equipment Technology
8.5.6 Digital Storage Oscilloscope and Digitizer Technology

8.6 Recorder/Reproducer Technology

8.7 Photographic and Optical Measurement Technology

8.7.2 Laser Interferometric Measurement Technology
8.7.3 Aerial Camera Technology
8.7.4 High Speed Recording Camera Technology
8.7.5 Microdensitometer Technology
8.7.6 Flash X-Ray Photography Technology

9.0 TELECOMMUNICATIONS TECHNOLOGY

9.1 Telecommunications Systems Technology

9.1.1 RF Communications Systems Technology
9.1.2 Optical Communications Using Propagation Media Other Than Fiber- Optics Technology
9.1.3 Underwater Acoustic Communications Systems Technology
9.1.4 Computer-Controlled Communications Technology
9.1.5 High-Frequency (1.5 to 88 MHZ) Communications Systems Technology
9.1.6 Network Simulation and Modeling

9.2 Communications Switching Technology

9.2.1 Circuit Switching Technology
9.2.2 Message Switching Technology
9.2.3 Packet Switching Technology
9.2.4 Locai Area Network Technology
9.2.5 Communications Network Control Subsystems Technology

9.0 TELECOMMUNICATIONS TECHNOLOGY
continued

9.3 Modems and Multiplexing Technology
9.3.1 Modem Technology
9.3.2 Multiplexing Technology
9.3.3 Transmission Media Simulation Technology
9.4 Radio Relay Technology
9.4.1 Line-of-Sight Radio Relay Technology
9.4.2 Tropospheric Scatter Radio Relay Technology
9.4.3 Satellite Ground Terminal Technology
9.4.4 Satellite Space Segment Technology
9.5 Communications Countermeasures Technology
9.6 Cables and Cable Manufacturing Technology

10.0 COMMUNICATION, NAVIGATION, GUIDANCE, CONTROL AND IDENTIFICATION TECHNOLOGY

10.1 Vehicle Control Technology
10.1.1 Spacecraft Guidance and Control System Technology
10.1.2 Air Vehicle Guidance and Control Technology
10.1.3 Ship Guidance and Control Technology
10.1.4 Submersible Guidance and Control Technology
10.2 Inertial Navigation Systems (INS) and Related Technology
10.2.1 Inertial Navigation System Integration Technology
10.2.2 Inertial Gimballed Platform Technology
10.2.3 Inertial Strapdown Systems Technology
10.2.4 Floated Ball-Bearing Gyroscope Technology
10.2.5 Gas-Bearing Gyroscope Technology
10.2.6 Flexure Rotor Gyroscope Technology
10.2.7 Gas Laser Gyroscope Technology
10.2.8 Electrostatically Supported Gyroscope Technology
10.2.9 Nuclear Magnetic Resonance Gyroscope Technology
10.2.10 Solid-State Laser Gyroscope Technology
10.2.11 Low-Cost Gyroscope Technology
10.2.12 Hemispherical Resonator Gyroscope Technology
10.2.13 Accelerometer Technology
10.2.14 Autopilot Technology
10.2.15 Test, Calibration, Alignment and Error Compensation Technology
10.2.16 Multifunction Inertial Sensor Technology

10.0 COMMUNICATION, NAVIGATION, GUIDANCE, CONTROL AND IDENTIFICATION TECHNOLOGY *continued*

10.2.17 High-G Air-Bearing Gyroscope Technology

10.3 Cooperative Systems for Radio Navigation and Radio Communication Technology

10.3.1 Techniques for Platform Cooperative Radio-Navigation and Radio Direction Finding Technology

10.3.2 Cooperative Radio Communication Technology

10.3.3 General Avionics/Electronic Systems Technology

10.3.4 Display and Control Interface for Integrated Communication/Navigation Technology

10.4 Target Classification, Recognition and Identification Systems Technology

11.0 MICROWAVE/MILLIMETER WAVE TECHNOLOGY

11.1 Microwave Tube Technology

11.1.1 Electron Gun, Collector and Beam Design Technology

11.1.2 Microwave Tube Circuit Technology

11.1.3 Microwave Tube Assembly Technology

11.2 Solid-State Microwave Device and Circuit Technology

11.3 High Power Microwave Control Component Technology

11.3.1 Control Component Technology

11.3.2 High Power Switch Technology

11.4 Waveguide and Component Technology

12.0 VEHICULAR TECHNOLOGY

12.1 Aeronautical Vehicle Technology

12.1.1 Laminar Flow Control (LFC) Technology

12.1.2 Airfoil, Helicopter Rotor and Wing Design Technology

12.1.3 Computer-Aided Design and Manufacture (CAD/CAM) Technology

12.1.4 Integrated Sensory Subsystems Technology

12.1.5 Control Configured Vehicles Technology

12.1.6 Aircraft Flight Management Systems Technology

12.1.7 Electromagnetic Hardening Technology

12.1.8 Lightweight, High Contact Ratio, Double-Helical (Herringbone) Gears Technology

12.0 VEHICULAR TECHNOLOGY *continued*

12.1.9 High Survivability (Loss of Lubrication) Technology
12.1.10 Advanced Propellers Technology

12.2 Marine Vehicle Technology

12.2.1 Hydrodynamic Design of Advanced Hull Forms Technology
12.2.2 Foil and Foil Structures Design for Advanced Hydrofoils Technology
12.2.3 Lightweight Marine Platform Structure Technology
12.2.4 Flexible Seals (Curtains, Fingers and Skirts) for Air Cushion-Supported Platforms Technology
12.2.5 Automated Platform Controls for Hydrofoils and Other High-Speed Marine Vehicles Technology
12.2.6 Polymer Injection Technology for Drag Reduction
12.2.7 Quiet Ball Bearing Technology

12.3 Deep Submergence Vehicle Technology

12.3.1 Untethered Submersibles Technology
12.3.2 Tethered Submersibles and Diving Equipment Technology
12.3.3 Syntactic Foam Technology
12.3.4 Air-Independent Power Systems
12.3.5 Ocean Salvage
12.3.6 Deep Sea Sensor Implantation

12.4 Aeronautical Vehicles Gas-Turbine Propulsion Technology

12.4.1 System Configuration, Aerodynamic and Thermodynamic Analysis Technology
12.4.2 Variable Flowpath Technology
12.4.3 Centrifugal Flow Compressor Aerodynamics Technology
12.4.4 Axial Flow Fan and Compressor Aerodynamics Technology
12.4.5 Turbine Technology
12.4.6 Cooled Turbine Technology
12.4.7 Rotating Propulsion System Structures Technology
12.4.8 High DN Rolling Element and Tolerance Bearing Technology
12.4.9 Gas-Film Bearing Technology
12.4.10 Ceramic/Hybrid Bearing Technology
12.4.11 Lube System Seals Technology

12.0 VEHICULAR TECHNOLOGY *continued*

12.4.12 Gaspath Sealing Technology
12.4.13 Gas Turbine Engine Coating Technology
12.4.14 Combustor Aerodynamics Technology
12.4.15 Combustion System Structures Technology
12.4.16 Afterburner/Ductburner Aerothermodynamics Technology
12.4.17 Frames, Ducts, and Cases Technology
12.4.18 Propulsion System Integration Technology
12.4.19 Electronic Control and Diagnostics Technology
12.4.20 Sensors, Actuators, Interfaces and Interconnections for Advanced Engine-Control Systems Technology
12.4.21 Electrical Power Generation Technology
12.4.22 Inlet Technology
12.4.23 Nozzles, Thrust Vectoring and Thrust Reversing Technology
12.4.24 Wind Tunnel and Propulsion Test Cell Technology

12.5 Marine Vehicles Gas-Turbine Propulsion Technology

12.5.1 Gas-Turbine Engine Moisture and Particulate Separator Systems Technology
12.5.2 Marine Gas Turbine Engines Protective Coating Technology
12.5.3 Marine Gas Turbine Engines Heavy Fuel Capability Technology
12.5.4 High-Temperature Heat Exchanger Technology
12.5.5 Lightweight Combined Gas- and Steam-Turbine (COGAS) System Technology

12.6 Other Marine Propulsion Technology

12.6.1 Composite Shafting Technology
12.6.2 Lightweight Marine Gearing Technology
12.6.3 Water-Cooled and Superconducting Electrical Machinery Technology
12.6.4 Ship Propellers Technology
12.6.5 Advanced Lift Fans Technology
12.6.6 Large Advanced Waterjets Technology

12.7 Spacecraft Technology

12.7.1 Spacecraft System Architecture Technology
12.7.2 Spacecraft Dimensional Stability
12.7.3 Structural Integrity Technology
12.7.4 Low-thrust Spacecraft Propulsion Technology

12.0 VEHICULAR TECHNOLOGY *continued*
12.7.5 Internal Command and Control Technology
12.8 Space Launch Vehicle Technology
12.8.1 Liquid Rocket Propulsion Technology
12.8.2 Solid Rocket Propulsion Technology
12.8.3 Propellant Management Devices Technology
12.8.4 Long-term Cryogenic Storage Devices Technology
12.8.6 Space Launch Vehicle Thermal Subsystem Technology
12.8.7 Cryogenic Cooling
12.9 Heavy Duty Ground Vehicle Technology
12.9.1 Heavy Duty Ground Vehicle Propulsion and Power Systems Technology
12.9.2 Heavy Duty Ground Vehicle Electronic (VETRONICS) Technology
12.9.3 Military Land Vehicle Track and Suspension Systems Technology
12.10 Vehicular Survivability Technology
12.10.1 Survivability Analysis/Threat Characterization Technology
12.10.2 Susceptibility Reduction Technology
12.10.3 Vulnerability Reduction Technology
12.11 Ramjet, Scramjet and Combined Cycle Propulsion Technology
12.11.1 Ramjet/Combined Cycle Inlet
12.11.2 Ramjet, Scramjet Fuels and Fuel Delivery Systems
12.11.3 Ramjet, Scramjet and Combined Cycle Combustors and Nozzles
12.11.4 Integrated Booster Air-Turborocket Solid Gas Generator System

13.0 OPTICAL AND LOW-ENERGY LASER TECHNOLOGY
13.1 Fiber-Optic Technology
13.1.1 Optical Fiber Technology
13.1.2 Fiber-Optic Cable Technology
13.1.3 Source and Detector Technology
13.1.4 Fiber-Optic Connecting and Splicing Technology
13.1.5 Optical Coupler Technology
13.2 Integrated Optics (IO) and Optoelectronics Technology
13.3 Filter Technology

13.0 OPTICAL AND LOW-ENERGY LASER TECHNOLOGY *continued*
13.5 Dye Laser Technology
13.6 Gas Laser Technology
13.7 Semiconductor Laser Technology
13.8 Solid-State Laser Technology
13.9 Chemical Laser Technology (See Section 6.1.1, High-Energy Laser Device Technology)
13.10 Laser Transmitter Technology
13.11 Low-Energy Laser Systems Technology
13.11.1 Low-Energy Laser Technology
13.11.2 Laser Rangefinding and Designator Technology
13.12 Nonlinear Optics Technology
13.13 Optical Subsystems Technology

14.0 SENSOR TECHNOLOGY
14.1 Optical (Ultraviolet, Visible and Infrared) Sensor Technology
14.1.1 Ultraviolet Band (0.01 - 0.3 Micrometers) Sensor Technology
14.1.2 Visible Band (0.4 - 0.8 Micrometers) Sensor Technology
14.1.3 Infrared Band (0.8 - 3.0 Micrometers) Sensor Technology
14.2 Passive X-Ray Sensor Technology
14.3 Conventional Acoustic Sensor Technology
14.4 Fiber-Optic Sensor System (FOSS) Technology
14.5 Magnetometers, Magnetic Gradiometers, and Magnetic Sensor Technology
14.5.1 Fluxgate Magnetometer and Magnetic Gradiometer
14.5.2 Resonance Magnetometer and Magnetic Gradiometer
14.5.3 Superconducting Magnetometer, Magnetic Gradiometer, and Magnetic Sensor
14.5.4 Fiber-Optic Magnetometer, Magnetic Gradiometer, and Magnetic Sensor
14.6 Gravity Meter and Gravity Gradiometer Technology
14.7 Radar and Signal Intercept Related (SIR) Technology
14.7.1 Systems Architecture, Design and Integration Technology
14.7.2 Radar Transmitter Technology
14.7.3 Radar and ESM Antenna Development Technology

14.0 **SENSOR TECHNOLOGY** *continued*
14.7.4 Radar and Signal Intercept Receiver Technology
14.7.5 Radar and Signal Intercept Signal Processing Technology
14.7.6 Post-Detection Processing and Display Technology
14.7.7 Radar Absorbing Materials
14.7.8 Laser Radar
14.8 **Electro-Optical Countermeasures (EOCM) Technology**
14.8.1 Passive Electro-Optical (EO) Warning/Threat Detection (W/TD)
14.8.2 Active Electro-Optical Warning/Threat Detection
14.8.3 Electro-Optical Non-Expendable Jamming
14.8.4 Electro-Optical Expendable Countermeasures
14.8.5 System Level Signal Processing and Control
15.0 **SEA SURFACE AND UNDERSEA SYSTEMS TECHNOLOGY**
15.1 **Undersea Acoustic and Seismic Technoiogy**
15.1.1 Acoustic Propagation, Modeling and Forecasting Technology
15.1.2 Acoustic Reception Technology
15.1.3 Acoustic Transmission Technology
15.1.4 Acoustic Processing and Display Technology
15.2 **Platform Acoustic Noise Reduction Technology**
15.3 **Salvage Technology**
15.5 **Deep Sea Sensor Implantation Technology**
15.6 **Test and Evaluation Facility Technology**
15.7 **Undersea Weapon System Countermeasure/CCM Technology**
15.7.1 Undersea Weapon Systems Countermeasures
15.7.2 Undersea Weapon System Counter-Countermeasures
15.8 **Ship Guidance and Control and Bottom-Mapping Technology**
15.8.1 Bottom Mapping Profiling
15.8.2 In-Water Speed and Relative Velocity Measurement and Integration
15.8.3 Ship and Submersible Guidance and Control

16.0 CHEMICALS AND BIOTECHNOLOGY
16.1 Polymeric Materials Technology
16.2 Hydraulic and Flotation/Damping Fluid Technology
16.3 Lubricating Oil and Grease Technology
16.4 Synthetic Elastomer Technology
16.5 Atmospheric Purification and Control Technology
1 6.9 Biotechnology
16.9.1 Recombinant DNA Technology
16.9.2 Bioprocessing Technology
16.9.3 Biomaterials Technology
16.9.4 Biosensor Technology
16.10 Technology for the Production, Dissemination Detection and Protection From Toxic Substances

17.0 NUCLEAR-RELATED TECHNOLOGY
17.1 Fissile Materials Enrichment Technology
17.1.1 Gaseous Diffusion Technology
17.1.2 Gas Centrifuge Separation Technology
17.1.3 Aerodynamic Separation Technology
17.1.4 Chemical Exchange Separation Technology
17.1.5 Electromagnetic Separation Technology (Calutron)
17.1.6 Laser Isotope Separation Technology
17.1.7 Plasma Separation Technology
17.2 Nuclear Materials Processing Technology
17.2.1 Tritium Production and Processing Technology
17.2.2 Nuclear Reprocessing Technology
17.3 Nuclear-Related Materials Technology
17.3.1 Uranium Hexafluoride Production Technology
17.3.2 Heavy Water Production Technology
17.3.3 Lithium Isotope Separation Technology
17.4 Fission Reactor Technology
17.4.1 Reactor Systems Technology
17.4.2 Naval Nuclear Propulsion Technology
17.4.3 Space, Mobile and Portable Military Reactor System Technology
17.4.4 Electronuclear Breeder Technology
17.5 Nuclear Explosive Technology
17.5.1 Nuclear Explosive Research and Development Technology
17.5.2 Nuclear Explosive Production Technology
17.5.3 Special Nuclear Explosive Component Technology

17.0 NUCLEAR-RELATED TECHNOLOGY *continued*
17.5.4 Special Nuclear Explosive Materials Technology
17.5.5 Nuclear Explosive Safety and Security
17.6 Fusion Technology
17.6.1 Inertial Confinement Fusion Technology
17.6.2 Magnetic Confinement Fusion Technology
18.0 SURVIVABILITY AND HARDENING TECHNOLOGY
18.1 Characteristics of a Nuclear Explosion
18.2 Blast and Shock Effects Survivability
18.3 Thermal Radiation Effects Survivability
18.4 Transient Nuclear Radiation Effects In Electronics (TREE) Survivability
18.5 System-Generated Electromagnetic Pulse (SGEMP) Effects Survivability
18.6 Nuclear Radiation Fallout Effects Survivability
18.7 Nuclear Weapon High Altitude Electromagnetic Pulse (HEMP)-Early Intermediate, and Late-Time Effects, Including Dispersed EMP (DEMP)
18.8 Source Region Electromagnetic Pulse Environments (Surface or Near Surface Burst)
18.9 Pulsed-Power Driven Nuclear Weapons Effects Simulation Sources
18.9.1 Vacuum Power Flow for X-Ray Simulators
18.9.2 Bremsstrahlung Radiation Sources
18.9.3 Plasma Radiation Sources
18.9.4 Particle Beams
18.9.5 Electromagnetic Pulse (EMP) Simulators
18.10 Nonnuclear Electromagnetic Pulse (NNEMP) Systems Technology
18.11 Nuclear Effects On Signal Propagation
19.0 ENERGY SYSTEMS TECHNOLOGY
19.1 Electrochemical Energy Conversion Technology
19.1.1 Special Primary and Reserve Battery Technology
19.1.2 Lithium Primary Battery Technology
19.1.3 Aerospace-Qualified Nickel-Cadmium and Nickel-Hydrogen Battery Technology
19.1.4 Lithium Secondary Battery Technology
19.1.5 High Energy Density, High Temperature Secondary Battery Technology

19.0 ENERGY SYSTEMS TECHNOLOGY *continued*
19.1.6 Fuel Cells Technology
19.1.7 Pulsed Battery Technology
19.2 Electrochemical Energy Conversion Technology
19.2.1 Electrochemical Machinery Technology
19.2.2 Magnetohydrodynamics Technology
19.2.3 Electrohydrodynamics Technology
19.2.4 Piezoelectric Technology
19.3 Direct Conversion Technology
19.3.1 Photovoltaic (PV) Cell Technology
19.3.2 Thermoelectric Conversion Technology
19.3.3 Thermionic Conversion Technology
19.4 Power Conditioning and Control Technology
19.4.1 Power Conditioning Systems Technology
19.4.2 Power Control Technology
19.5 Primary Power Systems Technology
19.6 Pulse Power Systems Technology
19.6.1 System Design and Integration Technology
19.6.2 Storage and Generation Technology

20.0 ENERGETIC MATERIALS AND DEVICES
20.1 Energetic Materials Manufacturing Technology
20.1.1 Metal Fuels, Metal Alkyls and Carbonates Production Technology
20.1.2 Special Salts Production Technology
20.1.3 Nitramines and Nitro Compounds Production Technology
20.1.4 Organic Nitrates Production Technology
20.1.5 Energetic Binder (Polymers and Monomers) and Plasticizers Production Technology
20.1.6 Miscellaneous Additives and Precursors Production Technology
20.2 Energetic Materials Formulation Technology
20.3 Energetic Material Fabrication and Loading Technology
20.4 Energetic Materials and Components Test Technology
20.5 Technology for Munitions/Weapons Systems and Components
20.5.1 Warhead Components and Systems
20.5.2 Gun Propulsion Systems and Components

20.5.3 Homing Kinetic-Energy Weapons Chemical Propulsion
20.5.4 Cartridge- and Propellant-Actuated Device
20.5.5 Demolition Systems and Components
20.5.6 Safing and Arming, Fuzes, Detonators, and Related Components
20.5.7 Reactive Armor and Warhead Defeat Systems
20.5.8 Fuel-Air Explosives
20.5.9 Control of Mass-Reaction or Vulnerability of Stowed/ Stored Munitions

30.0 SYSTEMS/SUBSYSTEMS ENGINEERING
This category includes the trade studies, analyses, development, and engineering effort conducted to define operational concepts, system/subsystem requirements, interfaces, integration parameters, human factors, and environmental considerations relevant to system/ subsystem development, production, operation, and logistical support. It includes simulation, modeling, prototyping, and testing activities that address system/ subsystem design, configuration performance, coat, schedule, and logistic objectives .

30.1 Aircraft
30.1.1 Mission Requirements, Analysis, Trade Studies
30.1.2 System Requirements, Analysis, Validation, Design
30.1.3 Subsystem Requirements, Analysis, Validation, Design
30.1.4 Integration and Test
30.1.5 Training/Simulators

30.2 Helicopters
30.2.1 Mission Requirements, Analysis, Trade Studies
30.2.2 System Requirements, Analysis, Validation, Design
30.2.3 Subsystem Requirements, Analysis, Validation, Design
30.2.4 Integration and Test
30.2.5 Training

30.3 Aerospace Vehicles
30.3.1 Mission Requirements, Analysis, Trade Studies
30.3.2 System Requirements, Analysis, Validation, Design
30.3.3 Subsystem Requirements, Analysis, Validation, Design
30.3.4 Integration and Test
30.3.5 Operational Factors

30.4 Spacecraft
30.4.1 Mission Requirements, Analysis, Trade Studies

30.0 SYSTEMS/SUBSYSTEMS ENGINEERING
continued

30.4.2 System Requirements, Analysis, and Validation
30.4.3 System Design
30.4.4 Design Integration
30.4.5 Assembly, Integration, Test
30.4.6 Launch Support and Integration
30.4.7 Orbital Operations
30.4.8 Vulnerability/Reliability

30.5 Satellites

30.5.1 Mission Requirements, Analysis, Trade Studies
30.5.2 System Requirements, Analysis, and Validation
30.5.3 System Design
30.5.4 Design Integration
30.5.5 Assembly, Integration, Test
30.5.6 Launch Support and Integration
30.5.7 Orbital Operations
30.5.8 Vulnerability/Reliability

30.6 Space Stations

30.6.1 Mission Requirements, Analysis, Trade Studies
30.6.2 System Requirements, Analysis, and Validation
30.6.3 System Design
30.6.4 Integration
30.6.5 Assembly and Test
30.6.6 Orbital Operations and Mission Planning
30.6.7 Vulnerability/Reliability
30.6.8 Human Factors

30.7 Strategic Missiles

30.7.1 Mission Requirements, Analysis, Trade Studies
30.7.2 System Requirements, Analysis, and Validation
30.7.3 Subsystem Requirements, Analysis, and Validation
30.7.4 Subsystem
30.7.5 Integration, Assembly, Test
30.7.6 Launch Support and Integration
30.7.7 Operations and Mission Planning

30.8 Tactical Missiles (Air-to-Air, Air-to-Ground, Ground-to-Air, Underwater)

30.8.1 Mission Requirements, Analysis, Trade Studies
30.8.2 System Requirements, Analysis, Validation
30.8.3 Subsystem Requirements, Analysis, and Validation

30.0 SYSTEMS/SUBSYSTEMS ENGINEERING
continued

30.8.4 Subsystems
30.8.5 Integration, Assembly, Test, Storage
30.8.6 Launch Support and System Interface
30.8.7 Operations and Mission Planning
30.9 Fleet Surface Vessels
30.10 Deep Submergence Vehicles
30.11 Ground Vehicles
30.12 Ordnance
30.13 Command/Operations Centers
30.13.1 Mission Requirements
30.13.2 System Requirements
30.13.3 System Design
30.13.4 Data Management and Processing
30.13.5 Communications Interface
30.13.6 Facilities
30.13.7 Operational Factors

31.0 Propulsion Systems/Subsystems
This category includes the study, development, system/subsystem engineering, integration, and testing of propulsive systems (and subsystems) for DoD vehicles and ordnance intended for operation in the water, on the ground, in the air, or in space, and NASA vehicles operating in these environments.

31.1 Air-Breathing Propulsion Systems
31.1.1 Aircraft
31.1.2 Naval Vessels
31.1.3 Ground Vehicles
31.2 Ballistic Missile Propulsion
31.3 Air/Surface Launched Missile Propulsion
31.4 Space Propulsion
31.5 Multiple Technology Propulsion Systems
31.6 Non-Conventional Systems
31.6.1 Electromagnetic
31.6.2 Solar
31.6.3 Laser
31.6.4 Plasma
31.6.5 Other
31.7 Nuclear

30.0 SYSTEMS/SUBSYSTEMS ENGINEERING
continued

32.0 Geophysical Studies/Projects
Research in this category includes studies, analyses, or projects that investigate the environment in which a DoD/NASA system may operate, changes which may occur to that environment caused by operation of the system, changes which may have to be made to the environment to enable satisfactory system operation, the societal or military impact resulting from any of the above.

32.1 Space Physics
32.2 Atmospheric and Meteorological
32.3 Ionospheric
32.4 Earth Sciences
32.5 Marine Sciences

33.0 Logistics-Weapon System Support Readiness
This category includes those R&D activities conducted primarily to meet a stated logistic need (LN) defined in a service's logistics requirement document or those efforts that support an LN even though the activity may be formally identified with other technology or systems engineering categories.

34.0 Man-Machine Interface

40.0 SPECIAL PURPOSE STUDIES
Activities not reconcilable with any of the foregoing technology or engineering areas or for which, for security purposes, should not be associated with a specific technology area(s).

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DROLS QUICK REFERENCE CARD

Functions	*Commands*
Comments	@COMMNT@

Search

Search Current File (Technical Report Database)	@SCF@
Search New Accessions	@SNA@
Search Technical Report Database	@STR@
Search Work Unit Database	@SWU@
Search CF with Previous Strategy	@SCFWPS@
Search TR with Previous Strategy	@STRWPS@
Search WU with Previous Strategy	@SWUWPS@

Recall

Recall Qualification Question	@RQQ@
Recall Qualification Statistics	@RQS@
Recall Search Question	@RSQ@
Recall Search Statistics	@RSS@

List

List Qualified Results##	@LQR@
List Search Results	@LSR@
List User File##	@LUF@

Display

Display Available Files	@DAF@
Display Export Control ITAR Statement	@DITAR@
Display Information Log	@DIL@
Display Inverted File	@DIF@
Display Order Log	@DOL@
Display Qualified Results##	@DQR@
Display Search Results	@DSR@
Display Single Known Current Technical Report Number	@DCF@
Display Single Known Technical Report Number	@DTR@
Display Single Known Work Unit Number	@DWU@
Display User File##	@DUF@

Sort

Sort Qualified Results##	@SOQR@
Sort Search Results	@SOSR@
Sort User File##	@SOUF@

Order

Order Additional Limited Document	@ADD55@
Order Limited Document	@FORM55@
Order Original Search	@OOS@
Order Qualified Results	@OQR@
Order Search Results	@OSR@
Order User File	@OUF@

Cancel

Cancel Bibliography/Document Order	@CO@

Not available in the Current File of the TR database.

DROLS Quick Reference Card

Functions	*Commands*

Transfer

Transfer Accession(s)	@TA@
Transfer All Qualified Results	@TAQR@
Transfer All Search Results	@TASR@
Transfer Range from Qualified Results	@TRQR@
Transfer Range from Search Results	@TRSR@

Qualify

Qualify Search Results	@QSR@
Qualify User File	@QUF@
Free Text Qualification of Abstracts in Search Results	@QSkAB@
Free Text Qualification of Titles in Search Results	@QSRTI@
Free Text Qualification of Titles and Abstracts in Search Results	@QSRTAB@
Free Text Qualification of Abstracts in User File	@QUFAB@
Free Text Qualification of Titles in User File	@QUFTI@
Free Text Qualification of Titles and Abstracts in User File	@QUFTAB@

Store

Store Search	@SS@
Delete Stored Search	@DELSS@
Display Stored Search	@DSS@
Execute Stored Search	@XSS@
List Stored Searches	@LSS@

Subcommands

Browse Backward	B
Continuous Display	C
Item-By-Item Display	Y
No Response	N
Paging	P
Terminator	END
Yes Response	Y

Important Telephone Numbers

Network Services Branch	(703) 274-7791
Technical Control Office	(703) 274-7251
Voice Recording of DROLS Status	(703) 274-7882
Reference Services	(703) 274-7633
Document Complaints & Inquiries	(703) 274-0981
DTIC Registration	(703) 274-6871
DROLS Registration	(703) 274-7709
Requests for Limited Documents	(703) 274-6985
Retrieval Analysis	(703) 274-6867
ADP Security (DASC-IO)	(703) 274-4684

If dialing DSN, drop area code and use 284 as prefix.

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